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VOL. 1, NO. 2 FEBRUARY 1973 PDC $1.25

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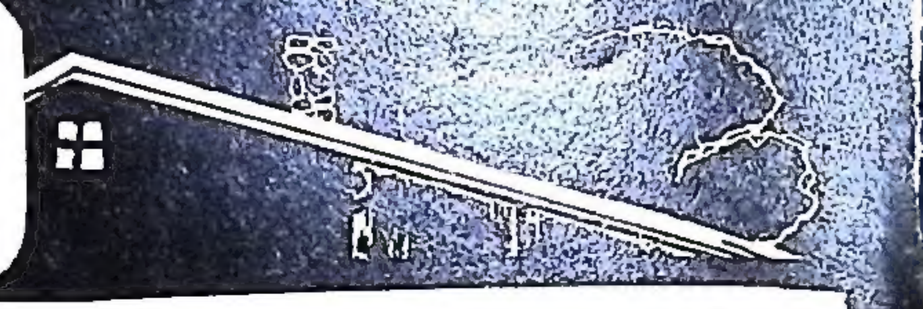

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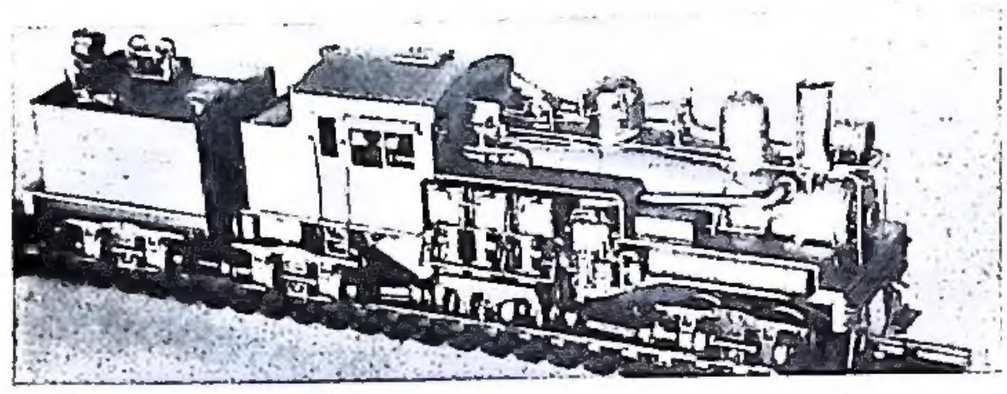

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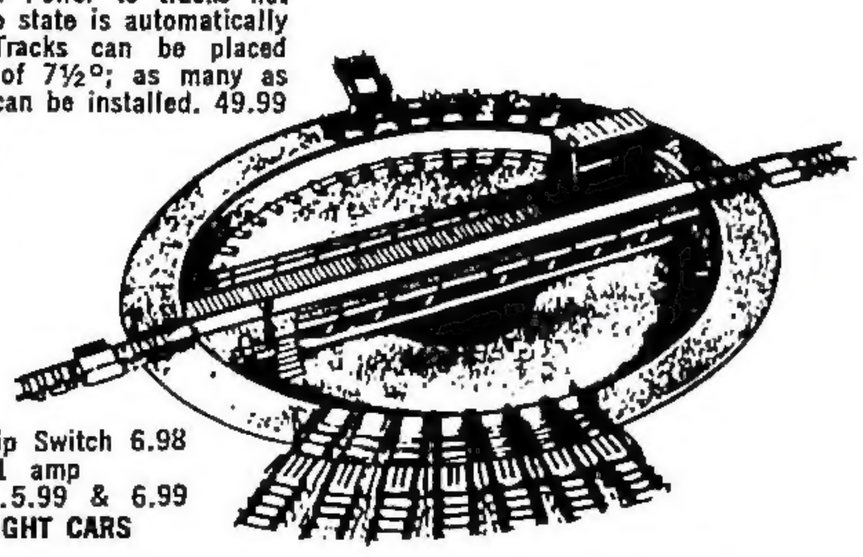

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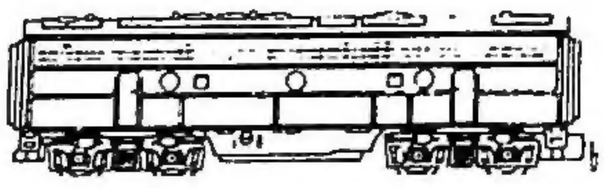

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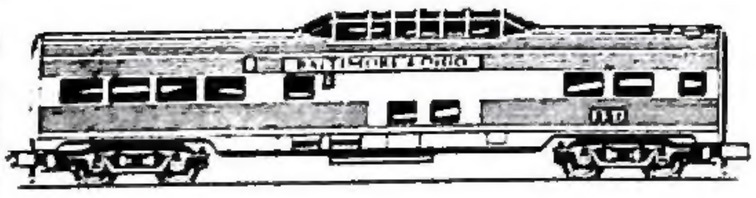

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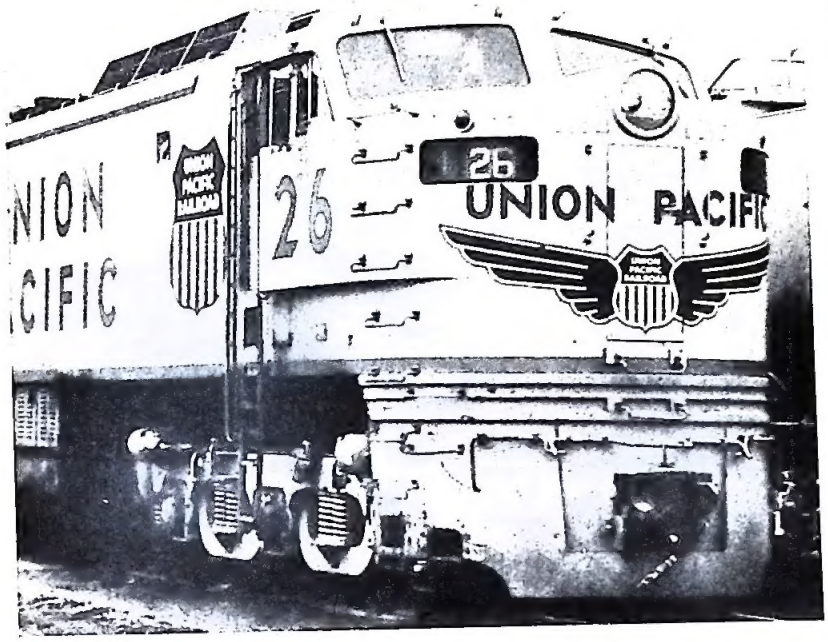

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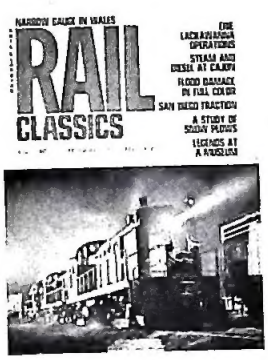

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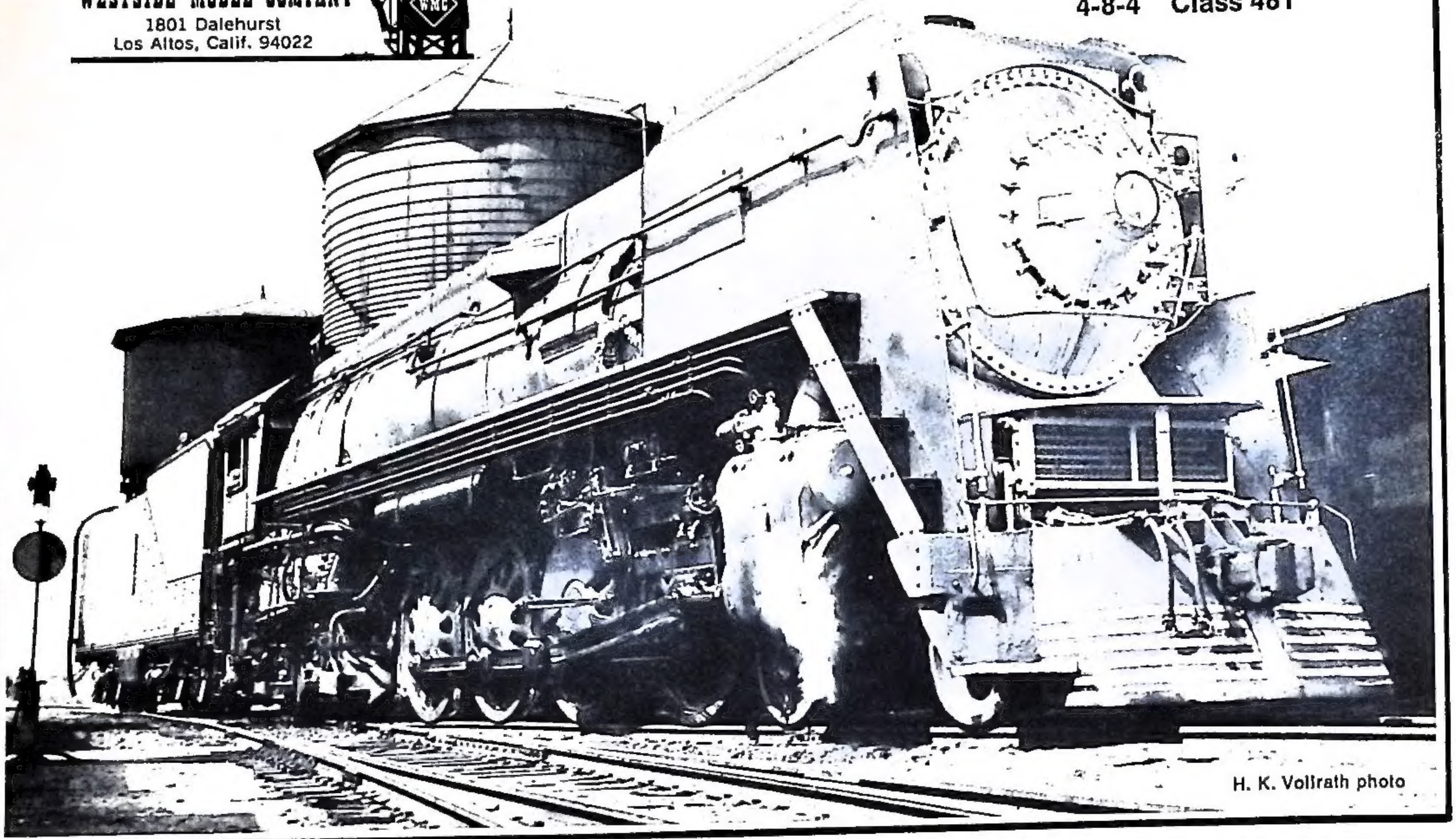
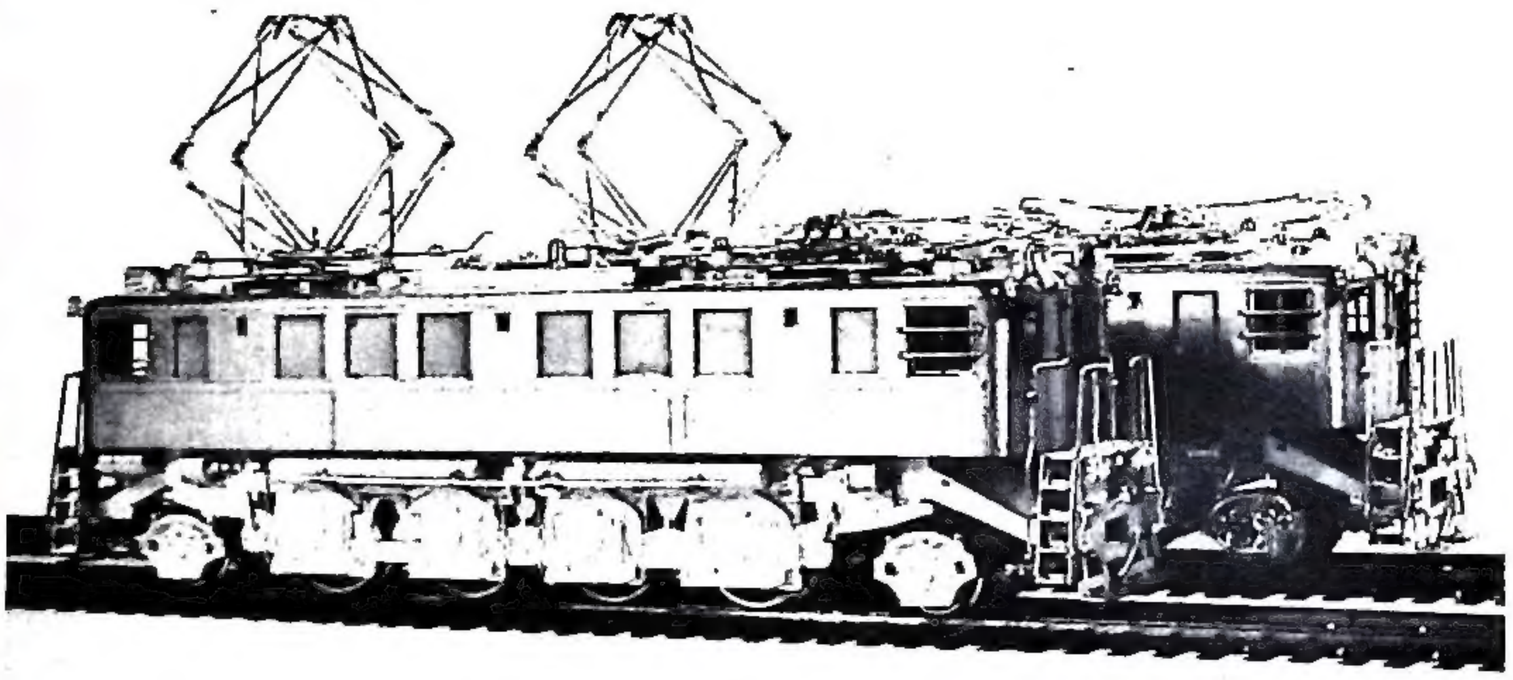
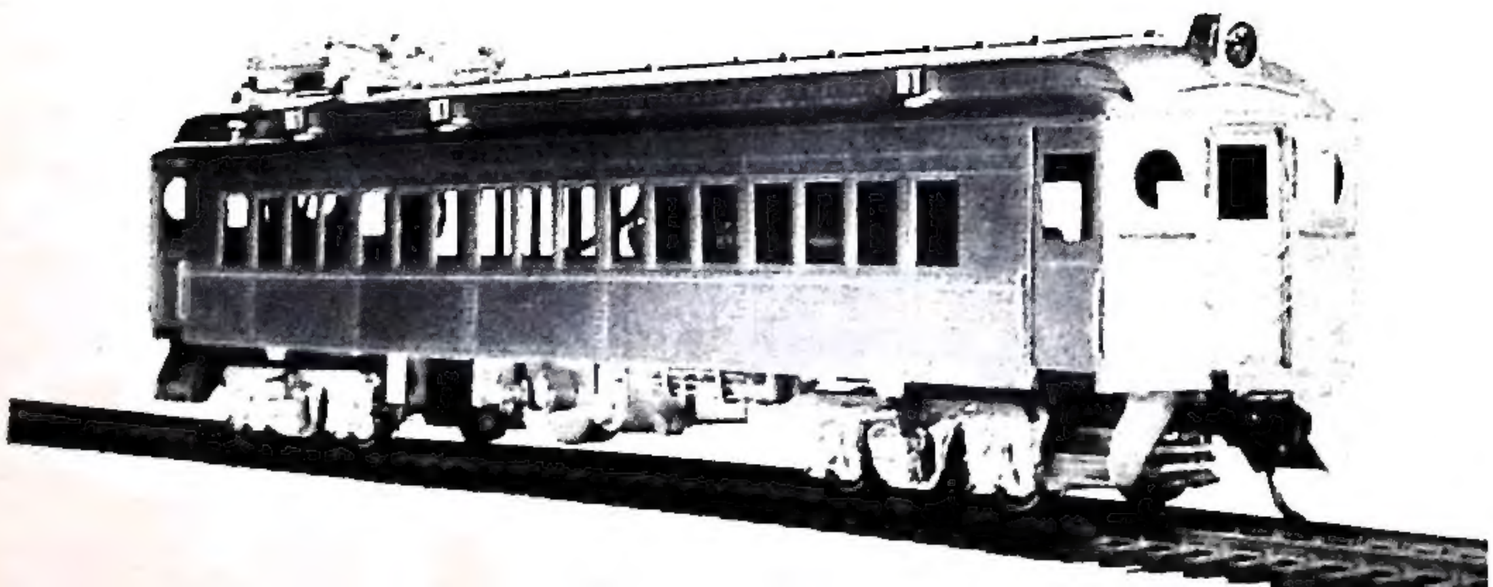


H. K. Vollrath photo

E-110 L-6 Electric



X-114 MP-54 Coach



PENNSY
IN HO

No one can ever accuse Alco Models of overlooking the Pennsylvania Railroad. In addition to the M-U cars and L-6 locomotive illustrated, Alco has made N-8, N-5B and N-5C cabooses available. Other electrics that some dealers may still have are the 01-C, P5-A and E-44. Some currently available items:

X-114	MP-54 Coach (powered)	$52.50
X-115	MP-54 Coach (un-powered) ...	43.00
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E-110	L-6 Electric	89.50

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RAIL MAIL

A RIDE REMEMBERED

If in the future you can see your way clear, please have an article written about the Wabash R.R. I remember from my younger days I had an opportunity to ride a coach on that road from Detroit to Chicago and once on a delay en-route before going over-seas from Decatur, Illinois to Detroit. Every time I had the opportunity to ride that road it seemed like the train simply flew. The run from Detroit to Chicago made only two stops in those World War II days, Adrian, Mich. and to change engines at Fort Wayne, and then like a streaked bird to Chicago. I swear there were times when the hogger let her all the way out and hit at least ninety. Perhaps I'm partial, which I probably am, but those 4-6-2 Pacifics were the best steam beauties and those big 78" drivers just awed me. Keep printing a well balanced magazine. Best of Luck.

Ted Szybowicz
Taylor, Mich.

PHOTOGRAPHER FOUND

Was pleased to find your new magazine on the newsstand. Enjoyed reading it especially anything on steam power. H. Reid is a close friend of mine and I especially enjoy his words and photos.

I believe the photograph on the lower part of page 40 is mine. For the record, this shot was taken on the last run the railroad made to Sapinero and no doubt was the last run of the 268 by the railroad. The company that took up the tracks used this locomotive after that but I do not believe they ran it to Sapinero.

John Krause
Rockville Center, N.Y.

CONTRIBUTORS NEEDED

. . . I have a large collection of negatives and would very much like to do an article for *Rail Classics.* Do you purchase only from professional writers or would you consider material from amateurs?

Charles Medwick
Fairlawn, N.J.

(Most of our articles are written by railfans who understand the romance of railroading. We have a fact sheet for prospective contributors, and if you would like a copy send a self addressed stamped envelope to Rail Classics. *—Ed.)*

SOUTHERN STEAM . . . UPDATE

As a footnote to my Southern Steam article, Walter C. Dove, Southern Road Foremen of Engines and the popular hero of 4501 has since retired. Also, in the interim of publication, C. D. Walter's "One Spot," 2-4-2 has been sold to a Myrtle Beach, South Carolina tourist line.

Al Langley
North Augusta, S.C.

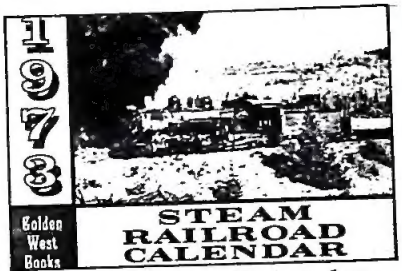
PHOTO REQUIREMENTS

I enjoyed reading the first issue very much. Some improvement is needed in proofing the text and captions, but the photo reproductions were excellent. I was especially delighted by the large number of color photos printed, and I hope this practice will continue. Because the majority of railfans now shoot only color slides and/or negatives, many of us have been unable to contribute our photographs for printing in the fan magazines. I primarily shoot Ektacolor negative film because that film best suits my needs at work. I would appreciate it if you would mention in your next issue in what form you would like photo contributions — slides, negatives, or prints.

Clyde L. Anderson
Maplewood, Mo. 63143

(Please turn page)

'73 RAILROAD CALENDARS now ready!



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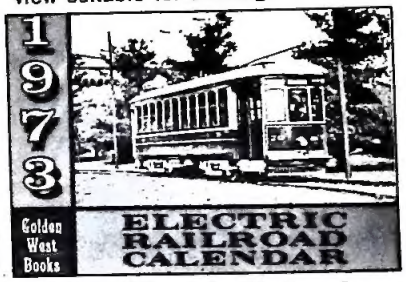

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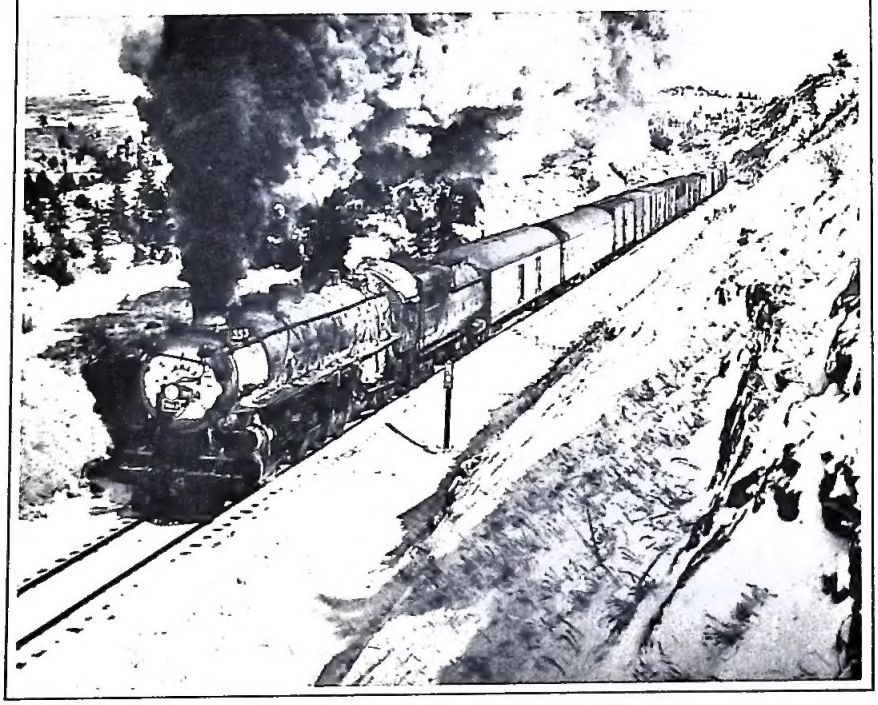

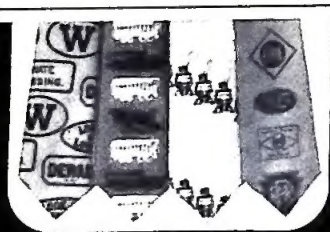

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WORTH THE PRICE

I very much enjoyed the first issue of your new publication, *Rail Classics.* While the price is high the color photographs and extensive text more than make it worthwhile. I hope that this magazine will become a regular and that the fans will support your efforts.

Edward A. Lewis
General Manager
Arcade & Attica Railroad
Arcade, New York

LIKES ROCKIES COVERAGE

Yesterday one of our firemen had a copy of your November 1972 publication, *Rail Classics,* in the back seat of his car. I noticed it as I was walking into the depot, stopped picked it up and went on into the station office. After looking through the first six or eight pages, I was already wanting to see the next issue. Frankly speaking, it is my feeling that you offer more of what railroading is all about than any other publication now on the market. The thing I liked most was the fine coverage you offered railroads west of the Rockies. Most of the railway buff publications place more time on eastern roads than they ever do the western counterparts. At any rate, it goes without saying that the large number of top quality black and white as well as color photograph offer a great deal of satisfaction to the everyday railfan.

Ed McLaughlin
Wasatch Mt. Rwy
"Heber Creeper"
Heber City, Utah

BOOK REVIEWS

STREAMLINED STEAM

by Eric H. Archer.
Published by Quadrant Press, Inc.
17 West 44th Street, New York,
N.Y. 10036. 54 pages 11 x 8½
horizontal, $2.95 softcover.

This is the first of a new series of low priced railroad books, each covering a specific subject. Their first is a photo essay on the attempt of the U.S. railroads to streamline steam locomotives. We might say an unsuccessful attempt for the most part. The long format allows the photos to be run larger than is usual, though for the most part the photos printed would fit an upright book. This type of format is a pain to put on a book shelf so it is a shame more of the photos were not run to fill the page.

The photo reproduction is quite good and the captions are short but full of information. The coverage seems to be quite good and there were only a few omissions that we are aware of. Other books promised in the series include subjects of the Burlington Zephyrs, assorted Challengers, and electric locomotives of the Milwaukee Road. This is a worthwhile purchase for the steam fan.

RAILROAD CAR JOURNAL #4 CABOOSES

Published by Kratville Publications,
516 Farnam Bldg., Omaha,
Neb. 68102. 42 pages, 8½ x 11.
$3.50 softcover.

The latest in their series is the same as the first three issues. A good collection of photos of various types of cabeese with less than adequate captions. We feel these books are very interesting and are certainly filling in some gaps in the railroad library, but they could be better. We would have liked to see a more in depth study of the evolution of the caboose and the various practices used by eastern versus western roads. A worthwhile effort that needs improving.

ARCADE & ATTICA RAILROAD

by Edward A. Lewis,
published by The Baggage Car,
Box 81, Arcade, New York 14009.
100 pages, 8½ x 11, $3.00 softcover;
$6.95 hardcover.

The story of the Arcade and Attica is almost a look at the development of the nations railroads in general. Though small in actual distance tra-

(Text continued on page 72)

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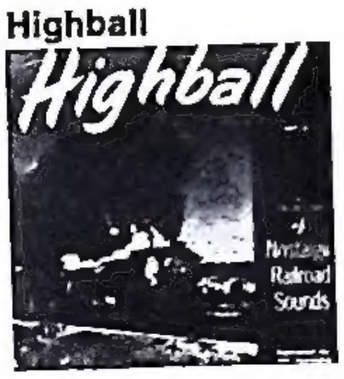

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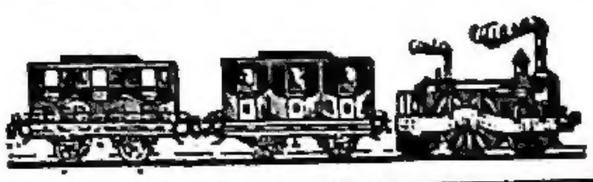

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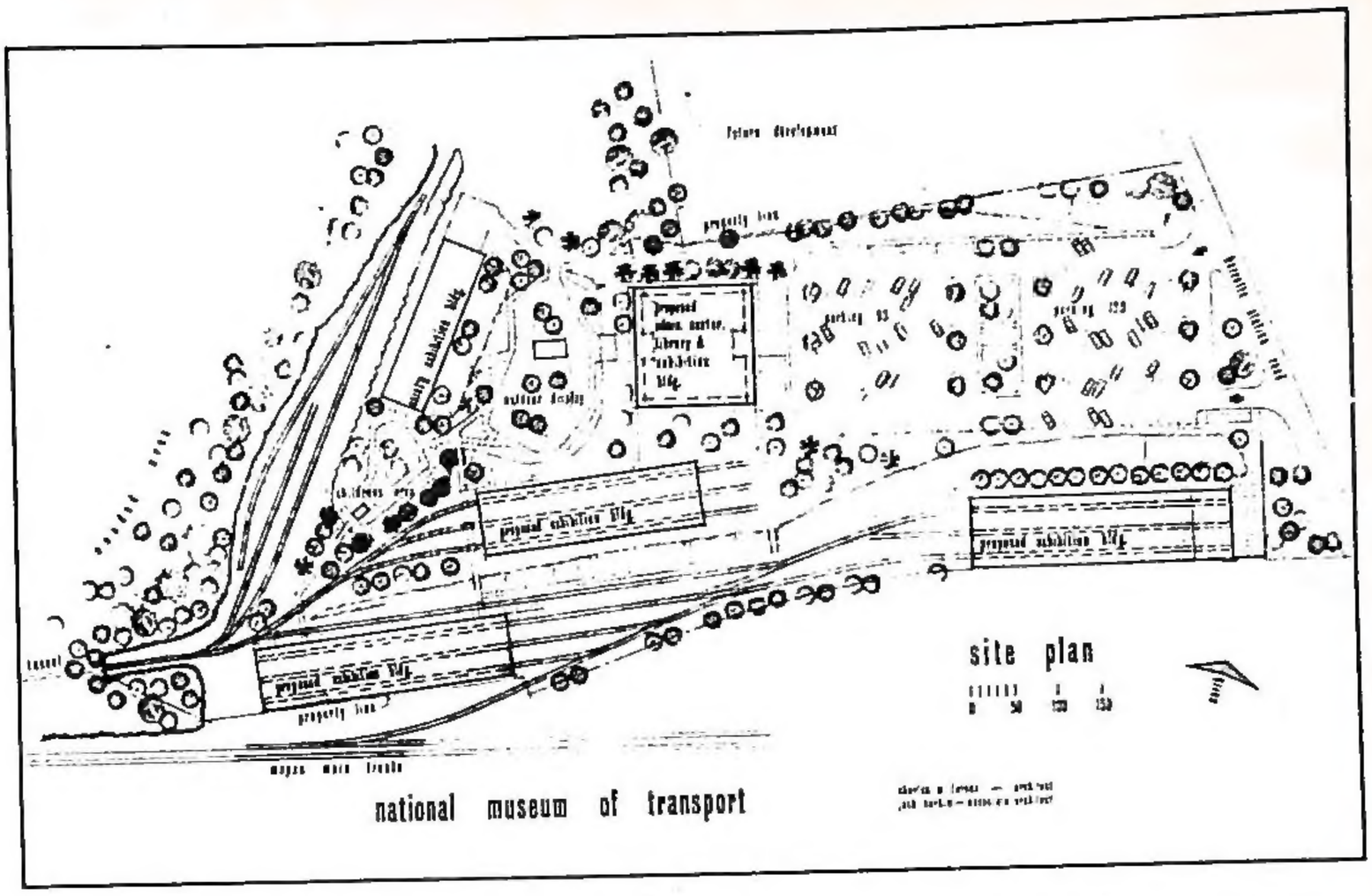
A Gathering of Legends

The National Museum of Transport is busily preserving the history of rail transportation

Silent and a bit tarnished is the bell on the back of Baltimore and Ohio number 173, a 4-6-0 Camelback built at Mt. Clare in 1873. For many years, she was part of the Purdue University Collection until donated to the museum in 1951.

By William H. Skip Boyer
Photos by the author



This is a place of legends.

Here, the smell of coal smoke and hot valve oil hangs faintly in the air. The morning sun gleams brightly on the bells and number plates of the dark, towering steam locomotives that once worked heavy coal drags in Virginia, blasted mile-long freights over Sherman Hill or jostled commuters in Chicago. Clustered together like a herd of great prehistoric beasts, their crown sheets are long cold, their fires dead. Many are far from home. Here is the grim visage of a Union Pacific Big Boy, there the swivel nose of a Y6a. A few feet away a Southern Pacific Daylight, once called "the most beautiful locomotive in the world," sits. Nearby is a Baltimore and Ohio Camelback, dwarfed by a long-boilered Pacific. Other locomotives—steam, electric, and diesel—are there, too. Each has its own story, its own legend of the days when the railroad was the symbol of a nation. It has an impressive gathering.

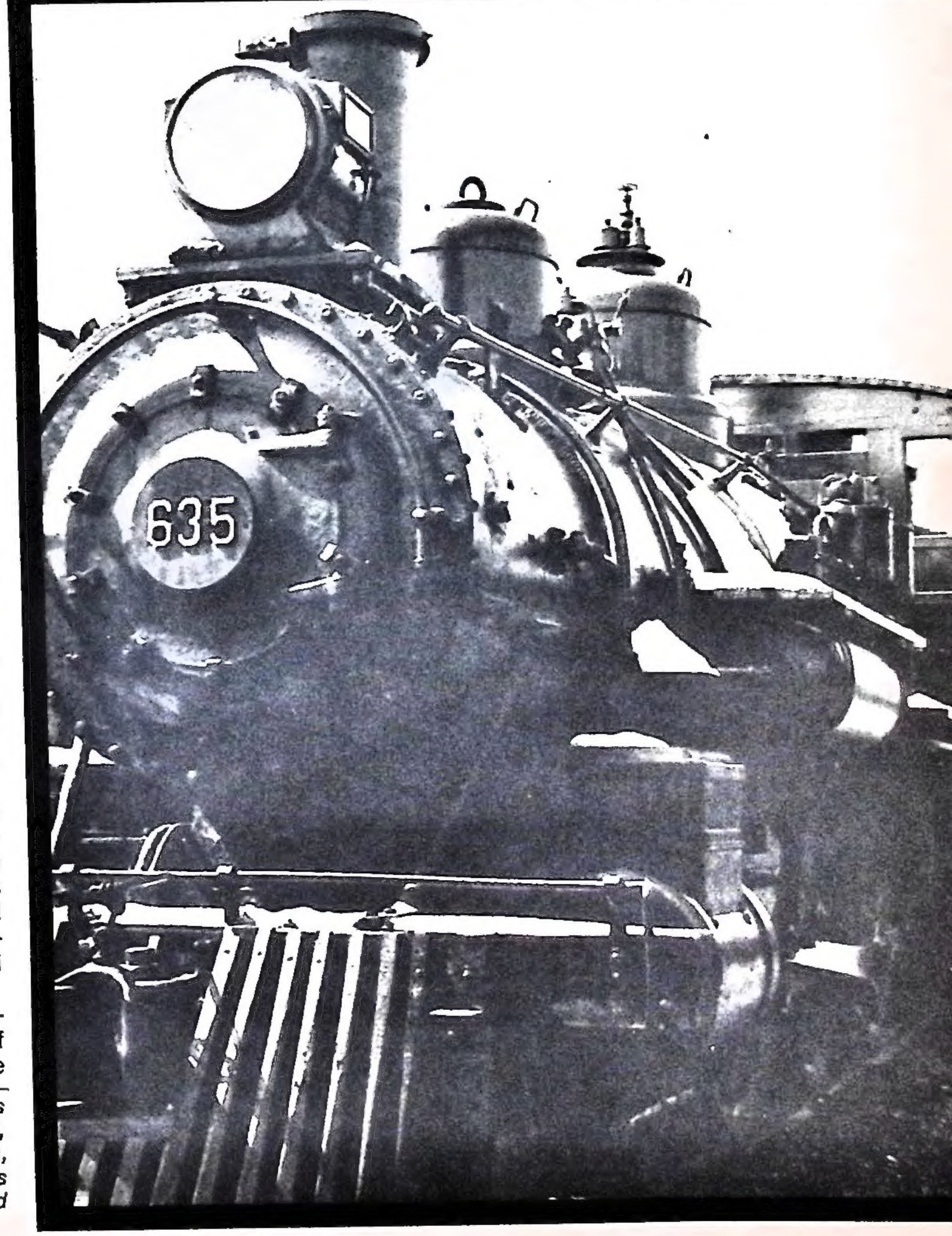
But not to Smokey.

Smokey is a smudgy grey-brown Siamese cat who knows that in the friendly atmosphere of the National Museum of Transport at Kirkwood, Missouri, he can always find a snug corner and a few kind words from the Museum's Director General, Mary W. Roberts. The vast outdoor collection of railroad equipment doesn't really impress him, though he has discovered that the running boards of the high-wheeled locomotives make a great place to nap in the sun and the centipede tender of the Big Boy is a good place to hide from visiting dogs, who come with or without humans.

"Stray animals just seem to come here," Dick Arndt, a quiet member of the Museum's staff who does everything from guide visitors to repaint boiler jackets, will tell you. "They know they can always get a good meal."

That is the story of the Museum's priceless collection of transportation artifacts as well as its pets. Like the stray animals, many of the relics come to the maze of sidings near old Barretts Station on the Missouri Pacific mainline just one step ahead of destruction.

It was one such little "stray," coupled with the concern of a group of St. Louis residents that led to the



The first locomotive in the museum's collection was this Missouri Pacific 4-6-0, built by Baldwin in 1889 for the St. Louis, Iron Mountain and Southern. She was donated to the museum in 1947, and originally cost $9,500 to build.

Time and the elements have taken their toll on the Southern Pacific 4460, a 4-8-4 GS6. Built by Lima in 1943, she powered the Cascade and Klamath trains. 4460 was used to pull the last SP steam excursion in 1958. She came to the museum in 1959.

founding of the National Museum of Transport in 1944.

Mrs. Mary W. Roberts, a full-time volunteer at the Museum and wife of its motivating force, Missouri Pacific physician Dr. John Roberts, recalls the beginnings.

"Back in 1944, a small group of us concluded that the handwriting was on the wall for steam and streetcars. From that, the idea of the museum germinated. We felt that someone should preserve these items," she explained. "In the beginning, this small nucleus of people thought of preserving documents and small artifacts for posterity. Even before we had the land, we collected bells, lanterns and such in our basements and apartments. Of course, we didn't have any full-size locomotives in our basements," the silver-grey haired woman smiled, "but almost!"

A notice that was hard to miss if you were travelling aboard the Mississippi Central.

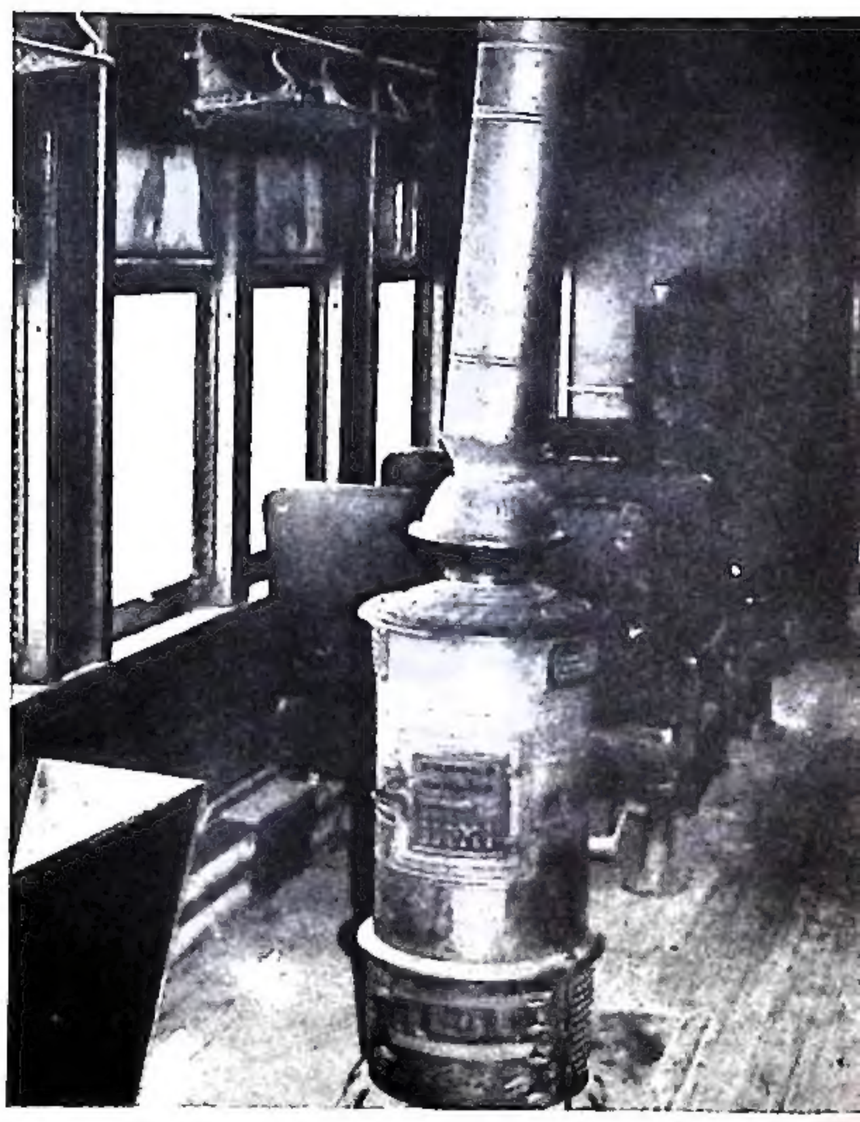
She paused a moment to stroke

Smokey who had slipped into the tiny reception building and curled up nearby.

"The event that really precipitated the founding of the museum was that the Public Service Company of St. Louis was tearing down one of their buildings. In that building, they had a little mule-drawn streetcar that dated back to 1875. That little "stray" needed a home. Dr. Roberts went to all the museums in St. Louis but no one was interested—it just didn't fit in with their scheme of things. So he began organizing and looking around for a spot to locate a new museum to be devoted to transportation."

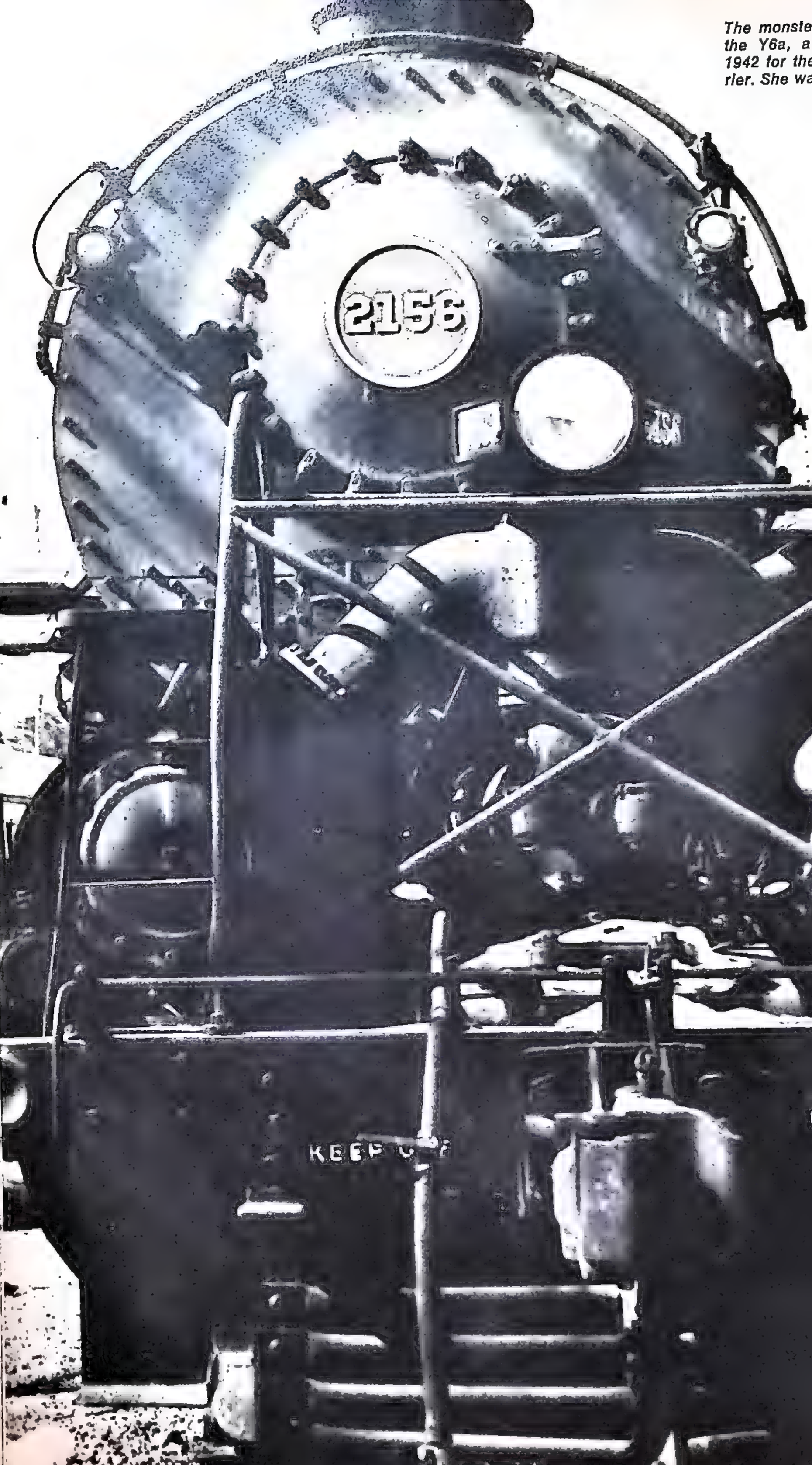
Today, that first acquisition sits under a protecting roof near the Museum's administration building. Its ten-foot length is dwarfed and nearly lost in the shadows of its larger brothers. It is one of the rarest and most valuable relics in the Museum's collection.

At the same time Dr. Roberts began his search for a suitable location to house transportation relics, an equally historic piece of land just west of St. Louis became available. Since 1853, the trains of the old Pacific Railroad and later the Missouri Pacific, had rolled through Barretts tunnel, the first tunnel bored west of the Mississippi River. Until 1944, that is, when the MoPac rerouted their double-tracked mainline through a new cut just south of the tunnel. To Dr. Roberts, it was the perfect site. The tunnel, part of the old Pacific roadbed and an adjacent five acres



First class transportation half a century ago required the traditional pot-bellied stove as well as the water cooler on the wall in the background. The coach is from the shops of Birney and Smith and was built in 1905 for the Mississippi Central.

The monster of the Norfolk and Western, the Y6a, a 2-8-8-2 built at Roanoke in 1942 for the heavy coal drags of the carrier. She was retired and donated in 1959.



were leased from the MoPac for one dollar a year.

The search and final leasing had taken two years, but in 1946, the Roberts and other volunteers began working weekends on their museum.

"The first year," Mrs. Roberts recalls, "we only had an old wrecker, built in 1869 and donated by the Missouri Pacific, and the little mulecar. That was all. The following spring, we put down some more track. Then electric streetcars that various private groups had saved began coming in and we acquired three locomotives."

That was the beginning of the project that would become the Roberts' "family" and the dominating force in their lives. Today, on 40 acres, there are more than 50 locomotives, ranging from tiny American Standards to the last Burlington shovel-nose Zephyr, dozens of pieces of freight and passenger rolling stock, an extensive collection of trucks and buses and automobiles, and even an elevator from a St. Louis department store.

"Every year we manage to add something," explained Mrs. Roberts. "Some years there is more progress than others."

Progress has been good in gathering the artifacts that tell the story of transportation, but success in housing the priceless relics has come with bitter slowness.

With time and the increasing number of visitors, now more than 78,000 annually, the Museum's facilities have become hopelessly inadequate. Many of the exhibits are stored outside, with little or no shelter. The lack of physical plant has become the Museum's biggest source of embarrassment and its greatest challenge.

Simply put, the challenge is money.

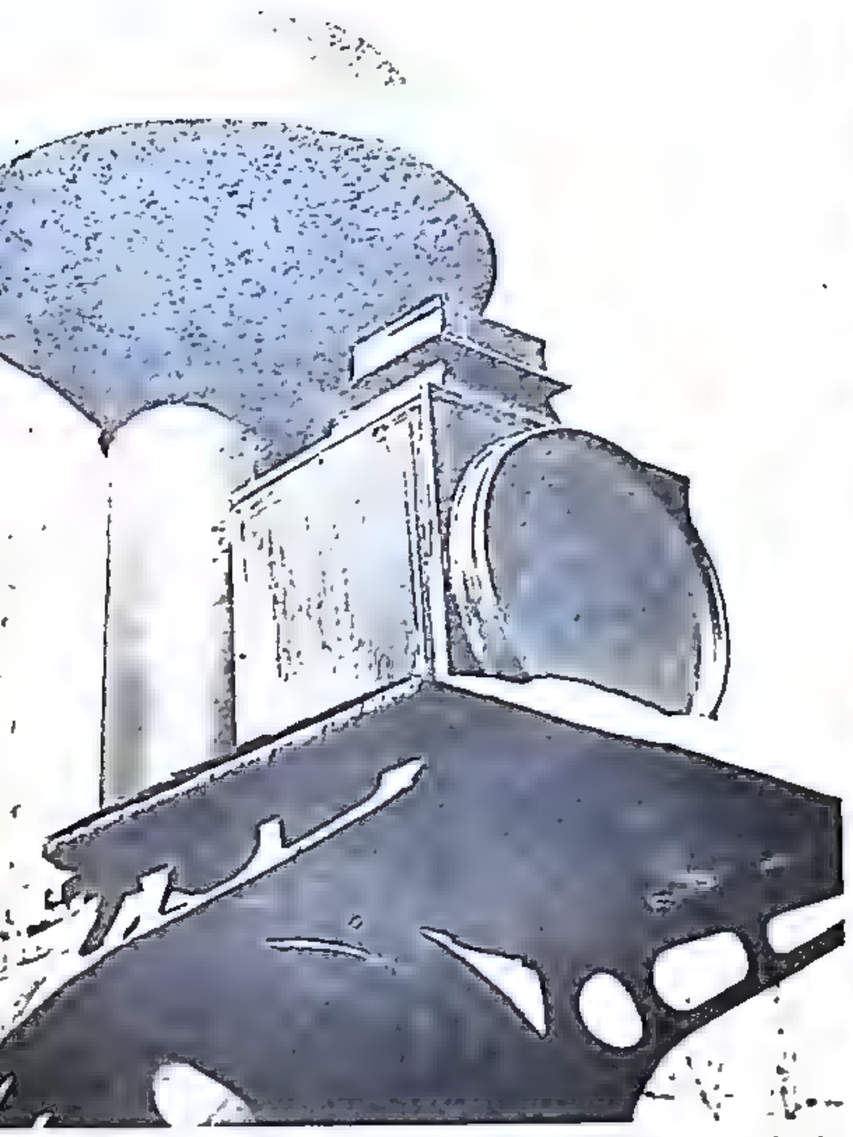
"The Museum is a nonprofit educational corporation," Mrs. Roberts explained. "It is operated by a Board of Directors that are elected by the 840 members. The dues that the members pay, the admission fees and the gift shop profits pay for operation of the Museum. That includes handling the public restoration and maintenance of the exhibits, and the accommodation of the visiting school groups."

"Our problem," continued Dr. Roberts, secretary of the Board, "is not operating funds. It's capital funds. At today's prices, it will cost four million dollars to carry out the proposed development of the Museum."

That proposed development, as illustrated by St. Louis architects Lorenz, Sorkin and Matthews, envisions a campus-like concept with several buildings housing various portions of the exhibits and a central administrative-library building.

The first step in what Museum directors see as a ten-year building program has been taken. The new automotive building, housing cars,

No identification is necessary for the famous Union Pacific Big Boy, number 4006, She is one of eight of the original 25 built for the UP still in existence. Retired in 1958, she came to the museum in 1961.



Resting, its stack quiet, its lamp dark, is Boston and Albany number 39, a 4-4-0. Designed by Master Mechanic Wilson Eddy, this locomotive was known as the "Eddy Clock" because it ran with clock-like precision. Number 39 was one of 100 such locomotives built in the road's Springfield, Mass., shops. It came to the museum in 1951 as part of the Purdue University Collection.

trucks and buses, is up—but not complete. There wasn't enough money left to heat and light it. "But," Mrs. Roberts hastens to add, "it does

The last of the streamlined Zephyrs, the Silver Charger, number 9908, was built by Budd in 1939 and was the last built for Burlington. This unit powered the "General Pershing Zephyr." Eventually, it became the last shovel-nose in service, retiring in 1965. It found its last home at the museum in 1966.

Rock Island caboose 18058 was retired in 1949, along with its conductor, James P. Bullard of Eldon, Missouri. Both were 45-year veterans of the Rock Island. A survivor of five railroad wrecks, the car made its last run from St. Louis to Eldon, Mo., on New Year's Eve, 1948. It came to the museum in 1949.

let us display these pieces where we had to keep them in storage before." Work is also progressing on parking areas, another major problem.

"We must proceed faster in providing buildings to house and display our priceless relics," added Charles P. Stanley, president of the Museum's Board of Directors. "Ultimately, the elements take their toll in deterioration."

With nearly all of the Museum's railroad collection unprotected, the battle to restore and preserve the various pieces is never-ending. The elements always seem to be one step ahead.

"At first we depended entirely on volunteers to maintain the exhibits," Mrs. Roberts noted. "But, while they have the interest, they don't always have the knowledge or the time to, say paint a whole locomotive. You also have to watch to make sure they restore things properly. One man who was helping us, for example, wanted to tear out all the old wood on one of the locomotives. Well, then you would no longer have the original engine. You might as well build a replica. Fortunately, we kept that impulse under control. We want to restore, not replace. Only a paid, responsible staff can accomplish this."

Although volunteers are still utilized, much of the restoration is done

by retired workers, men who possess almost lost skills in carpentry and locomotive maintenance. On the other hand, Leroy Durbin of Manhattan, Kansas, each year spends a week or two of his vacation at the Museum, replacing pistons and siderods on many of the locomotives. The men work under the direction of Robert D. Shaffer, Museum General Superintendent.

Preservation is the Museum's primary role, Mrs. Roberts is quick to stress. "We don't operate the relics," she says. "You can't both preserve and run the equipment. If you're going to operate, you should get something you are not going to preserve. Any operation here will be only for demonstration purposes as a part of our educational program."

The educational program is an important part of the role that the Museum has established for itself.

"Our aim has always been education," Mrs. Roberts explained. "We have built up our education department to where we have regular summer classes and school groups that come by the thousands. Last year alone, nearly 31,000 students visited the Museum as part of their own school programs." Important to many students, and serious scholars of transportation is the Museum's reference library of more than 6,000 volumes. The Museum also has many working models and historical artifacts, as well as a collection of photographs and documents donated by the Missouri Pacific Museum, on display in several of the passenger and freight cars. The very attractiveness of the collection does create some other problems, though. "Some would be helpers have wanted to

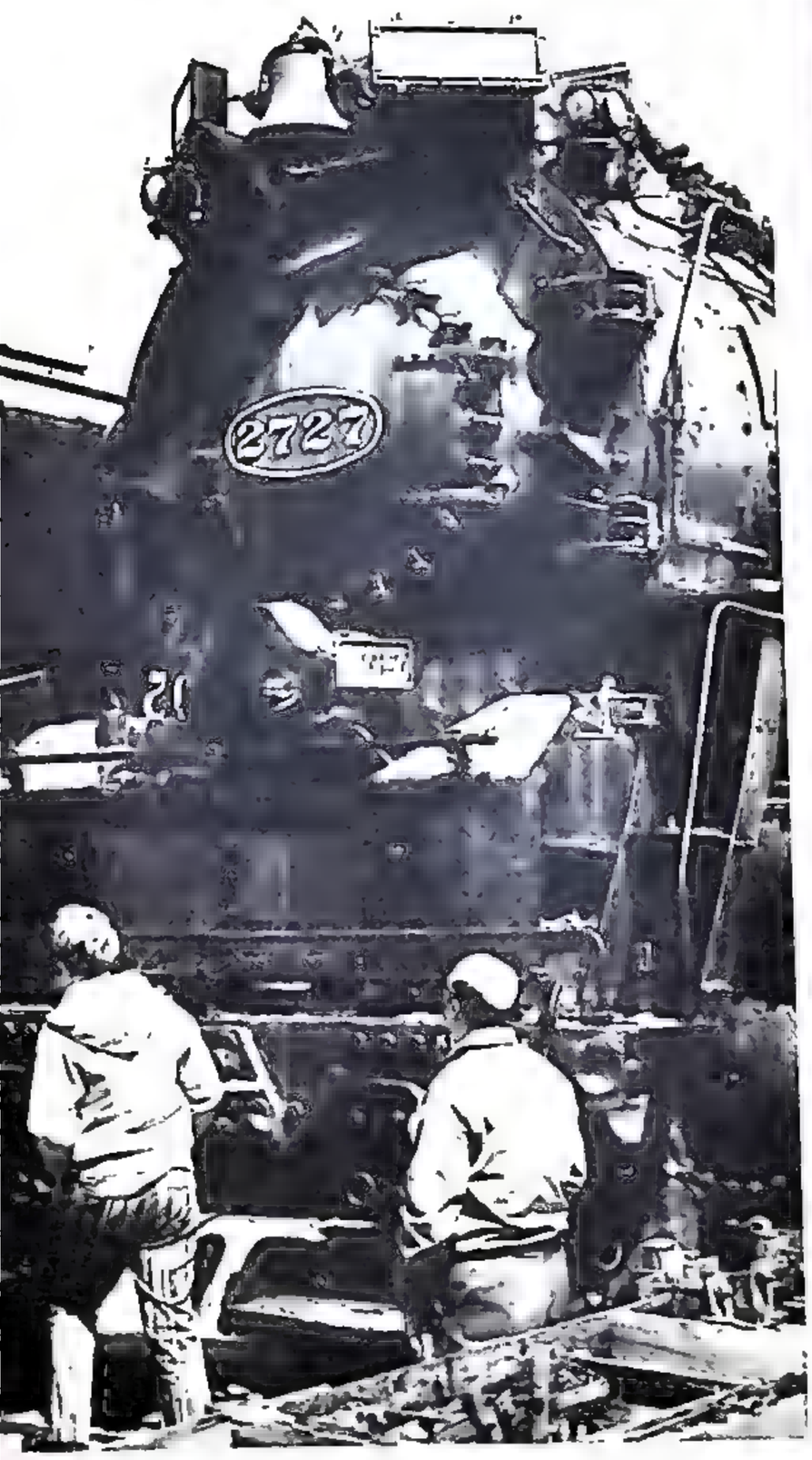
Replacing rotting wooden siding, John Seibert, a retired carpenter who works part-time at the museum, is restoring car 49 of the Soo Line. The car, built by Barney and Smith Company of Dayton, Ohio, in 1911, was once recovered with steel. Seibert is removing the steel and restoring the old wood.

Fireless forever is Great Lakes Carbon Company number 7, an 0-4-0 "fireless cooker," built by Porter in 1941. It was retired in 1963 and donated to the museum.

turn the Museum into sort of an amusement park," the Director General continued. "Perhaps we could make some money that way but that's not our purpose. We are interested in seeing this Museum become a truly valuable cultural and educational asset to the area and a vital link in the history of transportation. This is a serious effort. We're not here just for fun—though, we do enjoy it," she smiled.

Some days, though, life at the Museum is not enjoyable or fun. It's downright frightening. Like the time the Roberts' "home" headed for the Missouri Pacific mainline on its own.

"For a while in the early fifties," Mrs. Roberts explained with a twinkle in her eyes, "Dr. Roberts and I lived here in the Museum on the Monon car. It used to be a business car on the Union Pacific and the Southern Pacific in 1882 before Monon bought it. Well, I had often dreamed of that car getting away and going off on the MoPac mainline. One night I woke up and we had a little streetlight just outside the window—it was going by! I yelled and my husband jumped out and tried to shove something under the wheels. There wasn't anything I could do, so I sat down in the living room and enjoyed the ride. The car went on down and hit the Katy train that we had on exhibit and shoved it down to the derail before it stopped!"



Father and son pause to examine Chesapeake and Ohio number 2727, a K-4 built by Alco in 1944. Perhaps dad can remember when these pounded by, working steam in a grand fashion. His son can only ask, "Why were they so big, Dad?"

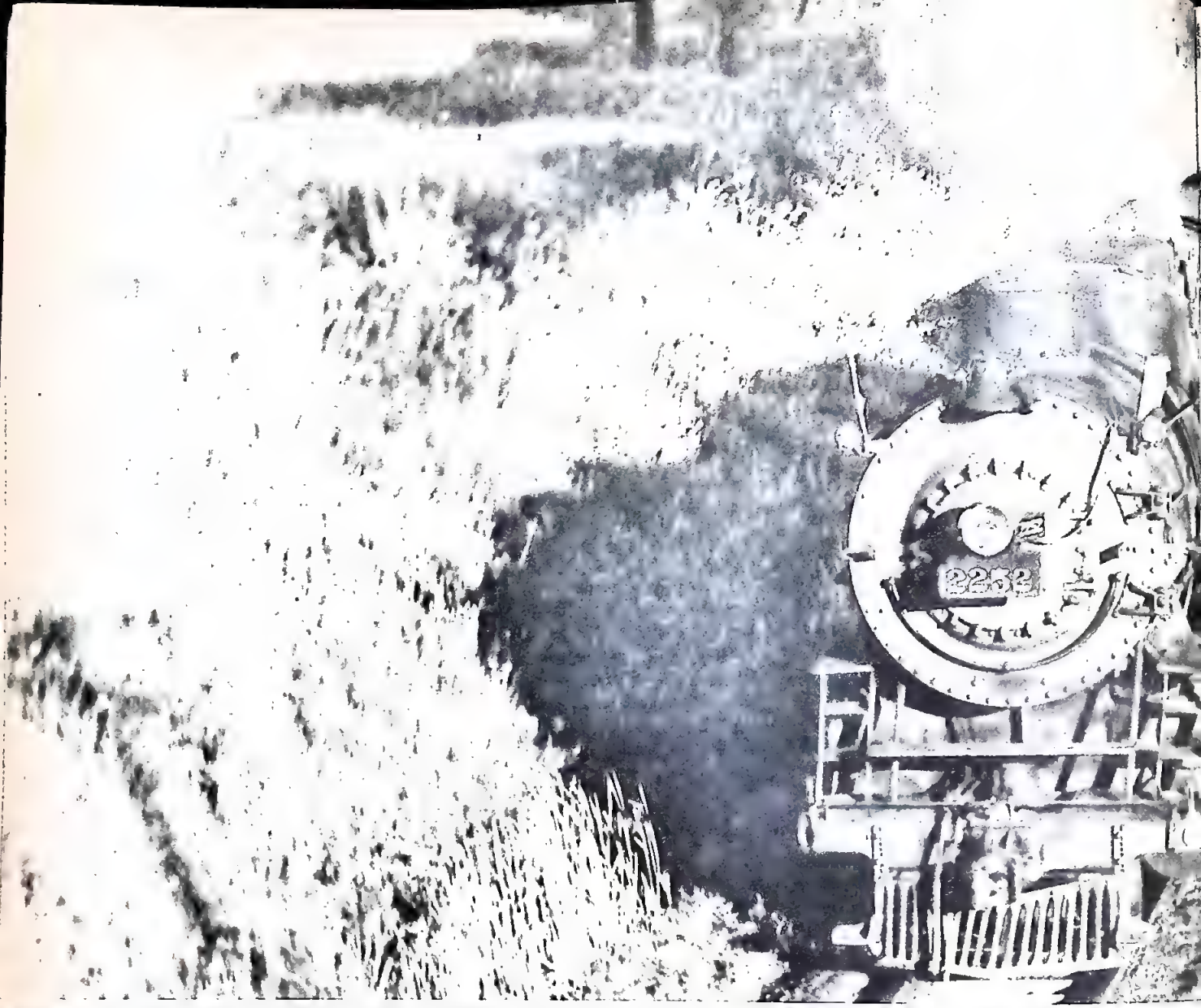
The problems of the growing Museum, from independent-minded business cars to badly needed capital funds, sometimes seem overpowering. Even the Roberts ask themselves if the nearly 30 years of dedication has been worth the headaches. To the casual visitor, though, those problems are overshadowed by what has already been accomplished.

Wandering through the ballasted railyard of the Museum, listening to the occasional roar of a MoPac fast freight a few yards away, one can trace the development of America's love affair with the wheel. Here, a tiny horsecar, there a primitive steam locomotive more than a century old, standing next to one of the monsters that ruled during steam's finest hour. Nearby, crude wagons and wooden boxcars show how man first moved goods as the industrial age hit full stride. Here is the mark of the railroad moguls, left imprinted on history in their lavish private cars, still shining with brass railings and stained-glass windows. There is the car a young senator named Harry Truman used to ride from his Missouri home on the way to Washington.

In the maze of silent rails and wheels that seldom turn, in aged wood and stainless steel, here is the history of a nation. It is an impressive gathering of legends.

To just about everyone, that is, except Smokey, who is probably enjoying a catnap on the running boards of a tiny Katy 4-4-0, oblivious to the other historic "strays" around him.

The last of the five bi-polar units designed to pull the Milwaukee Road's Olympian and Cascade trains has also found a home at the museum. This unit, the E-2, was exhibited at the Century of Progress World's Fair in 1933-34 and the Chicago Railroad Fair in 1949. In 1961 it was donated to the museum. The other four bi-polar units have been scrapped.



Steam locomotives and freight cars with roofwalks were still fairly common in 1950. Richard Pedler of Spring Lake, Michigan found Wabash Mike #2252 southbound on the Ann Arbor Railroad near Ithaca, Michigan enroute to Toledo, Ohio.

Have a favorite railroad photo you would like to share with others? Send it to the Gallery *with a short paragraph describing the train and the location. If your photo is selected for use, you will receive a free one years subscription to* Rail Classics. *Send photos (at least 5"x7") to:* Rail Classics *Gallery, 7950 Deering Ave., Canoga Park, California 91304.*

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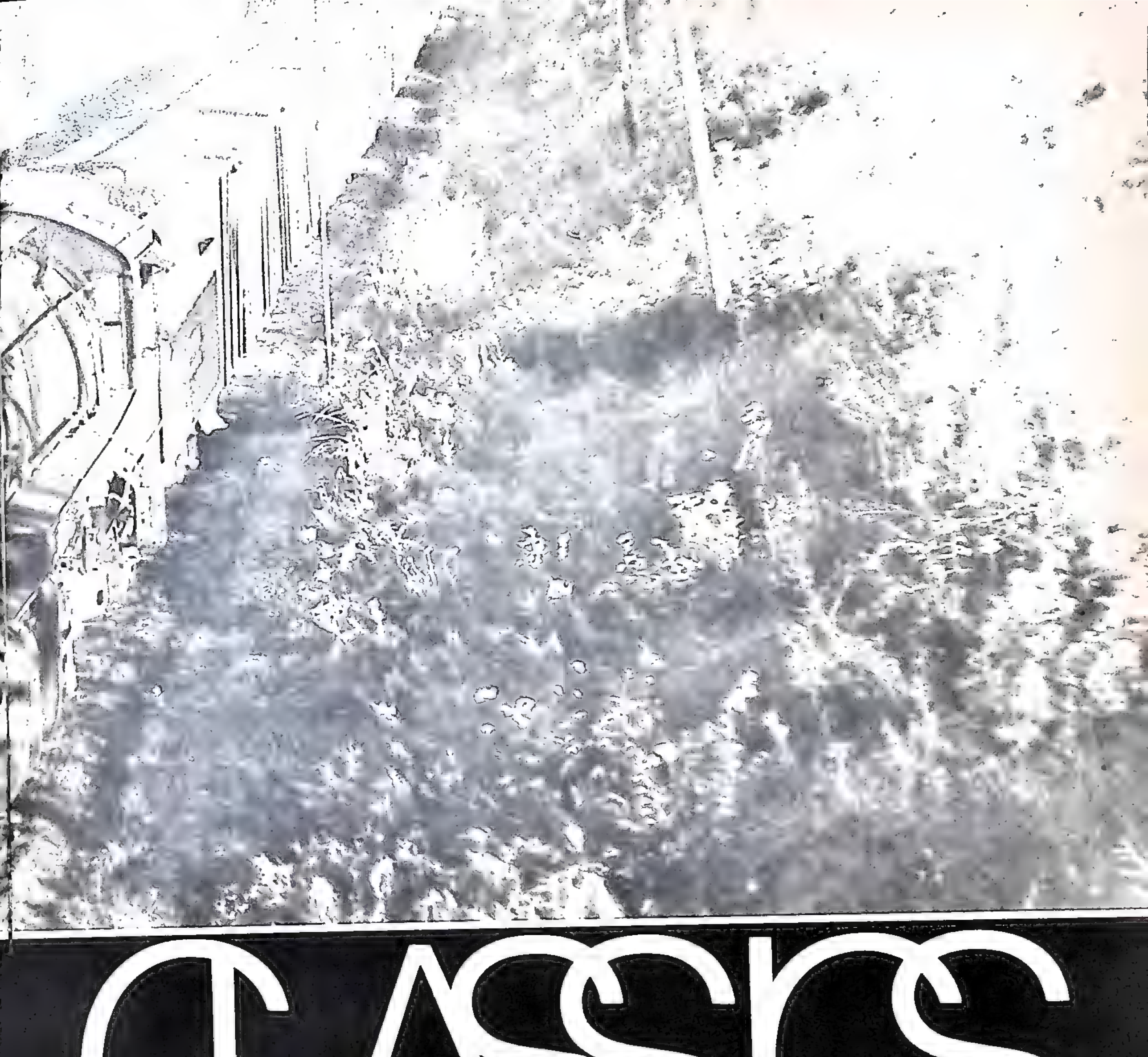

CLASSIC GALLERY

Though the Burlington Northern is spreading its bright green identification in an ever wider pattern, her tracks still sport other colors, at least temporarily. Two SP&S Alco C636s leave the maintenance shops in Seattle ready to head back towards Portland. Some of these units have received the new paint scheme. Jeff Scott photo.

Three cars of the Chicago, South Shore, & South Bend RR wait for another day's duty on a cold morning in January of 1969. These yards in South Bend are now gone as the railroad moved to the west edge of town. John Strombeck photo.

RAIL CLASSICS GALLERY

New Zealand Government Railways' Class "DI" diesel #1104 ambles along in front of the Christchurch railway station on an October day in 1966. She was built that same year by English Electric Co. of Australia. William T. Morgan photo.

It's a long run from Denver to Salt Lake City, Utah, but this Northern looks none the worse for wear. Denver & Rio Grande Western's 4-8-4 #1713 lays over between runs in the Mormon city in this view taken in 1949. Photo by Jack Goodman.

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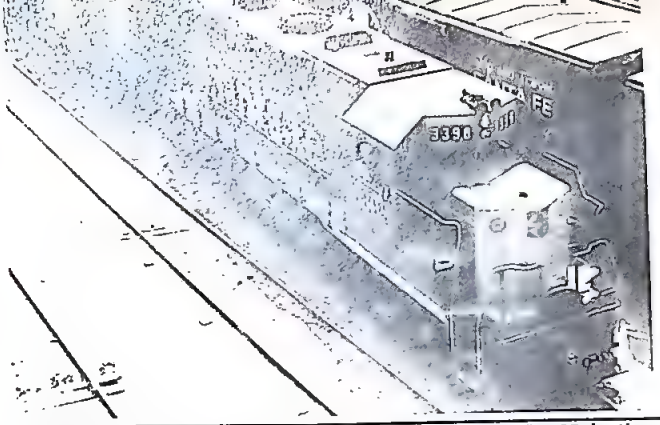
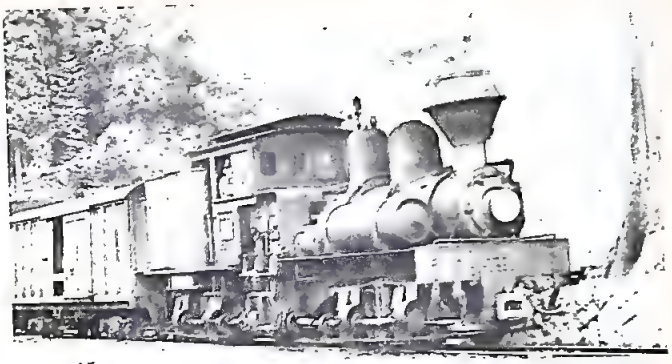
Three cars of the Chicago, South Shore, & South Bend RR wait for another day's duty on a cold morning in January of 1969. These yards in South Bend are now gone as the railroad moved to the west edge of town. John Strombeck photo.

RAIL CLASSICS GALLERY

Steam shop switchers always seemed to have a character of their own and Santa Fe's #2298 is no exception. Formerly on the Rock Island, the little 0-4-0T is seen at the Los Angeles shops in 1933. It once had a small crane fitted around the stack, thus the special casting. Alton A. Parsons photo.

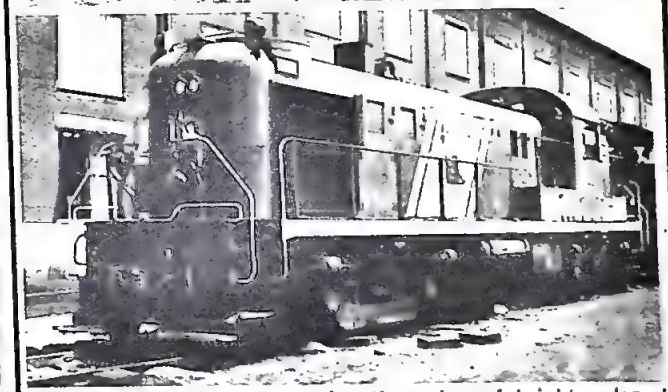


Switching duty is the order of the day for GP35 #3398 in the Santa Fe yards at El Paso. The locomotive is normally used to propel a Jordan spreader, but an out of service GP9 switcher caused the new assignment. Photo by Chris Raught.



September morning in 1971 finds Class "B" Shay #17 of the Ali-Shan Forestry Railroad taking a mixed freight high into the mountains of Taiwan. Link-and-pin couplers on this Lima built locomotive attest to the remoteness and rarity of this line that boasts nearly a dozen active gems like this one. David C. Goss photo.

Not all equipment is used for revenue as is attested by this tired looking little group. The four work cars and two trailers, a tool car and chemical car, once belonged to the Penn Central. They are now located in a rail scrap yard, near Sharpsburgh, Pa. Photo by Daniel J. Makuta.



Another railroad that is seeing the value of bright colored paint schemes to attract attention to the railroads is the Central Railroad of New Jersey. Gone are the dull olive drab colors to be replaced by the bright red and white as seen on this Alco RS-3. Photo by Jerome A. Rosenfeld.

The patriotic spirit seems to be greater than the rules of proper flag display, as Virginian Railway #202 poses in Maben, West Virginia. The occasion is the Fourth of July, 1908 and the presence of a photographer seems to be one of the highlights of the day for the citizens. Photo provided by Wayne S. Arnold, whose father was the station agent in Maben.

RAIL CLASSICS GALLERY

The high point of the Virginia Central's one mile line is this timber trestle in West Fredericksburg, Va. Plymouth #500 is dwarfed by the N&W box car. The V.C. is owned by the City of Fredericksburg and was purchased from its former owner for the sum of $1.00. Edward A. Lewis photo.

Predecessor to Alco's beloved PA locomotive was the smaller, and still in service, FA. Many of these are now being rebuilt into power cars for the Long Island Railroad. Here #603, formerly on the L&N, arrives at St. James, New York and its preserved station. John Taibi photo.

THE RESULTS OF AGNES

June's tropical storm flooded a great portion of the nation's rail lines and left a wrecker's nightmare.

Photos by the author

By Tony Reznak, Jr.

The disastrous eastern flooding caused late last June by tropical storm Agnes, remnants of the season's first hurricane, brought havoc to every railroad it touched. Not least of all affected was the hardest-hit city of Wilkes-Barre, Pa. and the Penn Central Buttonwood yard there. With two bridges down the line washed out the day before the June 23-24-25-26 flooding of the mighty Susquehanna

Empty tank cars were one of the major causes of derailments. As the waters rose, the empty tanks simply floated up and off their trucks to later settle down blocking other tracks as well.

Water was well over the top of the stack of Strasburg's No. 89 during the height of the flood. This looked grim for her sitting amid wrecked cars and uprooted yard office buildings but reports are that the 2-6-0 will be ready for operation.

River began, the number of cars backed up in this yard was enormous.

As seen in the photo, hundreds of loaded Canadian newsprint cars brought down on the D&H were the worst problem. Paper in the cars swelled many times its original size not only causing an unloading challenge but actually pushing out the sides of the rolling stock. Empty tank cars rose with the water of the now three-mile-plus wide river derailing and overturning car after car.

The Seaboard Coast Line's car repair crews may wonder what's going on in the rest of the world when these cars finally return home. Note the load spilling from the hopper car and the large piles of debris around the tracks.

Also at Buttonwood yard was ex-Mountain 2-6-0 No. 89 enroute from Vermont to new owner Strasburg Rail Road near Lancaster. Water was well over the Mogul's smokestack for several days, but reports have it that the loco will be pulling trains through Pennsylvania Dutch lands on the 140-year-old Strasburg on schedule next season.

Across town in PC's central city yards, the visiting James E. Strates carnival train consisting of two dozen piggybacks and heavyweight Pullmans was completely submerged.

Repair work to mend the severed national rail web commenced almost as quickly as the flood waters receded. However, reroutements still abound. Some track is not expected to reopen. A battered fleet of rolling stock is finding its way back to home tracks to the disbelief of shopmen nation-wide. And more.

As has always been the case, the lines were soon functioning. Trains ARE running. But as the bills mount higher and higher, managements of eastern flooded roads are in more desperate need of money than ever. Heads are now turned to Washington.

One of the many strings of freight stock completely inundated by the rapidly rising waters of the Susquehanna River.

Tropical storm Agnes made complete chaos of the rail operations in much of the east.

Canadian newsprint—tons of it—was victim to Agnes. Car after car had to be emptied of the worthless cargo before the cars could be moved. Most of the cars had sides swollen out from the expanding wet paper. Scene at PC Buttonwood, Pa. yards on July 4th, 1972.

Water was well over the top of the stack of Strasburg's No. 89 during the height of the flood. This looked grim for her sitting amid wrecked cars and uprooted yard office buildings but reports are that the 2-6-0 will be ready for operation next summer.

GREAT LITTLE TRAINS OF WALES

BY ROBERT W. BROWN PHOTOS BY THE AUTHOR

A GUIDE TO SOME OF THE MOST INTERESTING NARROW GAUGE RAIL LINES IN THE BRITISH ISLES

The [illegible] spectacular in the Wales [illegible]. This high level view shows [illegible] at Devil's Bridge on the [illegible].

Slate [illegible] world! That's why the little narrow gauge lines of Wales were built and they hauled this slate for over 100 years. In its day slate was a principle building material used all over the world. Slate was used for roofs and to cover the walls of buildings, it was used for blackboards, sinks, countertops, pavement, walls, and in the later days for early electrical parts requiring insulation. The western region of North Wales was blessed with huge amounts of pure slate and it was not long before men began to quarry the material and send it down to the shore to be loaded on ships. These early efforts go back into the 1700's, on a small scale, and after the introduction of the railway on a large scale employing many men and influencing the life of North Wales.

Fortunately there were men in England who saw the importance of these little slate rail lines and took steps to preserve them as operating museums when the demand for slate no longer warranted the running of the railways. As a result it is possible for a railway enthusiast to travel to Wales and within a very small area see seven small lines. True not all are slate lines but all are well worth visiting.

Your first problem is to get to Wales but it really is not as hard nor as expensive as you might think. My wife and I have gone for the last two years and hope to go again. Our favorite spot in all the British Isles is standing on "The Cob" at Portmadoc and watching the last evening train on the Festiniog drift by. In the stillness after the passing of the train you can see off in the distance to the west the remains of Harlech Castle resting on its high cliff and to your east the mist shrouded mountains of Snodonia with the tallest Mt. Snowden, disappearing into the clouds. A beautiful spot.

To get there we joined a British American travel club which sponsors trips to England at excursion rates. Be careful and pick a club that is reliable and well established or you may be left stranded in England. These clubs provide transportation to England but you are on your own once you get there. Prices change but we paid $270.00 for a 28 day excursion flight this year. It would have cost about $700.00 to fly on a regular carrier at the standard rate. We flew on a Scottish line aboard a 707. I have to admit it was a bit cramped since to make their profit the airlines put more people into the airplane so the seats do not have the same leg room as on the larger planes. But its only a 10 hour flight and you can think of the money you are saving. The plane will probably land at Gatwick Airport which is about 40 miles south of London. It is possible to have a rental car waiting or you at the airport complete with maps and gas. We paid about $230 for three weeks including insurance. There were no other charges and we returned the car to London. We were three days early and they refunded the three days which was a nice surprise.

The passengers take in the view of the Vall of Rheidol equipment as they wait for the two-foot gauge train to leave Devil's Bridge on its way to Aberystwyth.

Firing a Fairlie locomotive keeps the fireman busy as there are two fire doors. Note the small size of the firebox door and the small openings for removing coal from the bunker.

It will take you about two days of driving to get up to the railways of Wales and you can use the famous bread and breakfast accommodations. You look for a B&B sign in the window of a home and they will provide you with a clean bed in your own room and a huge English breakfast. That means juice, eggs, bacon, ham, toast, marmalade and tea or coffee. All for about $3.00 per person.

I'll leave you to get to Wales on your own. You will pass into Wales by crossing over the Seven Bridge and if you want to go into the "How Green Was My Valley" coal mining area you can go north from either Caerphilly or Newport on routes A4042, A467, A4049 or A4285 which will take your through the coal regions.

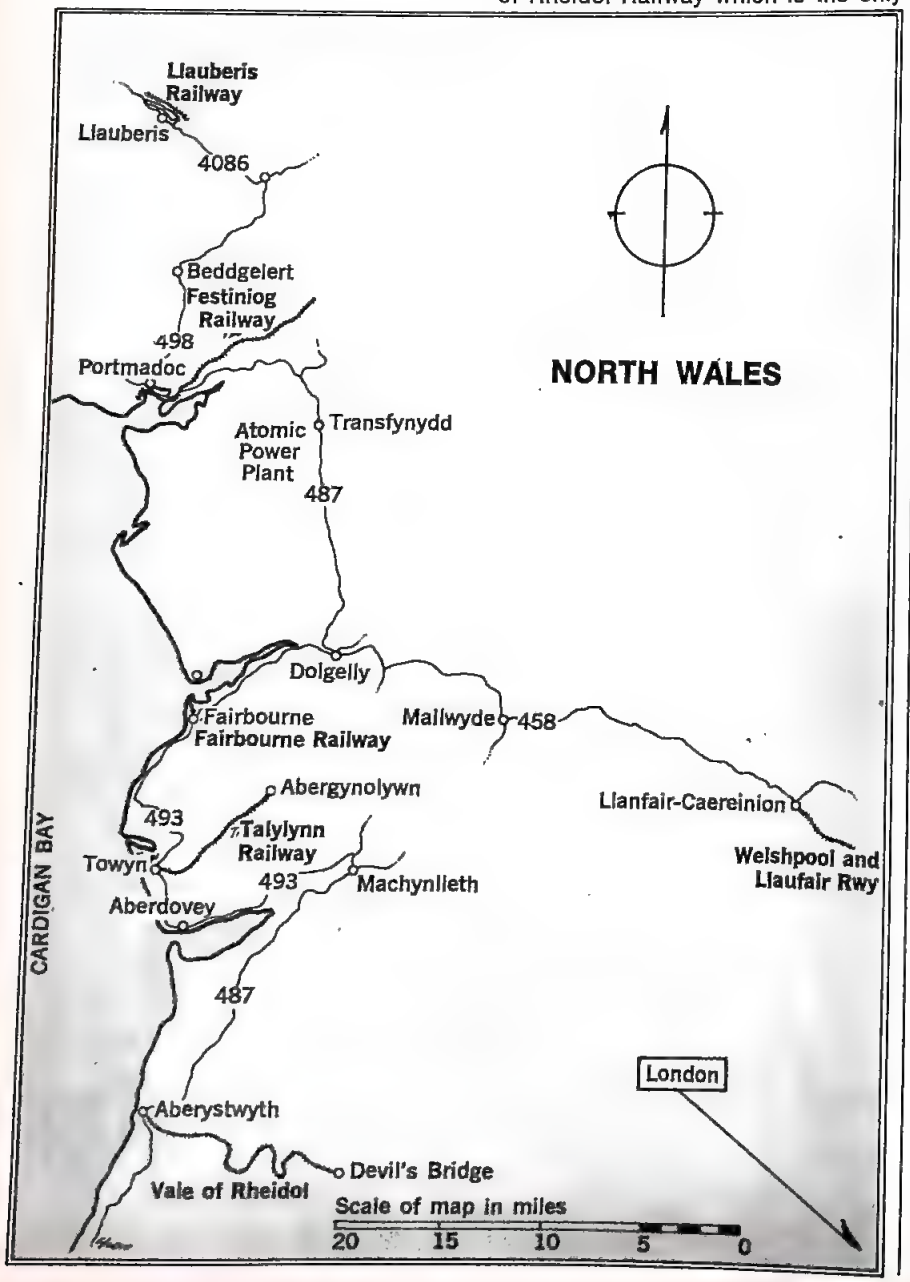
The first narrow gauge line you will come to is the 2 foot gauge Vale of Rheidol Railway which is the only steam line operated by British Railways. It is not a preservation effort but an actual tourist line. The line runs from Aberystwyth on the west coast up a spectacular valley to the end of the line at Devil's Bridge which is a well known British resort area. There are several waterfalls made famous by Wordsworth's sonnet "The Torrent at Devils Bridge." Story has it that the original bridge was built by the Devil with the promise that he could have the soul of the first living thing to cross it. Of course the people sent over a dog and the Devil was so disgusted that he went away.

I would suggest you approach this line at Devil's Bridge since the main station at Aberystwyth is in a rather large and crowded city. Parking is impossible and the station is fenced so it is awkward to get close to the line unless you are riding. You can board at Devil's Bridge and ride down to Aberystwyth where you can shop around for an hour or so and then ride back up to Devil's Bridge and get in your car or walk to one of the several hotels near the railway. I should mention that during the summer the whole Welsh area is crowded and alive with tourists including many English who come up to Wales to ride the trains.

The line owns five side tank locos which I have heard described as the K-36's of Wales. They are powerful and massive looking locomotives and make quite a noise climbing up the horseshoe curves to get to Devil's Bridge. They are 2-6-2's built by the Great Western at Swindon in 1923. Once you get over the shock of the lovely blue and red colors you will fall for them.

It is only about an hour's drive up the coast on route A487 to the first of the true slate haulers, the Talyllyn Railway which was the first of the lines to be preserved. In fact I think it was the first to be preserved in the world and may have started the move toward preservation of other lines. The Talyllyn is my favorite and runs between Towyn on the coast and Abergynolwyn up in the mountains. It is built to a gauge of 2 feet 3 inches and still is running the first two original locomotives plus two off of the Corris Railway and a well tank. Five in all plus several internal combustion models used for M of W work. These five steam locomotives make up a really lovely little assortment.

No. 1, "The Talyllyn," was the original locomotive on the line and was built in 1865 by Fletcher Jennings as an 0-4-0. It was rebuilt as an 0-4-2 because of a tendency to wiggle its rear end too much. No. 2,



The narrowness of the trains can easily be understood in this head-on view of one of the Festiniog Fairlies. American they're not, but for the steam fan they are truly outstanding.

Preparing to take on coal and water 'Sir Haydn' seems unconcerned about the disparity between the dirty coal and the colorful blooms of the flowers. Scene at Towyn on the Talyllyn Railroad.

The Llanberis Lake Railway is single tracked so a baton must be passed from one train to the next to gain rights. Here the up train passes the key to the engineer of Bob's train.

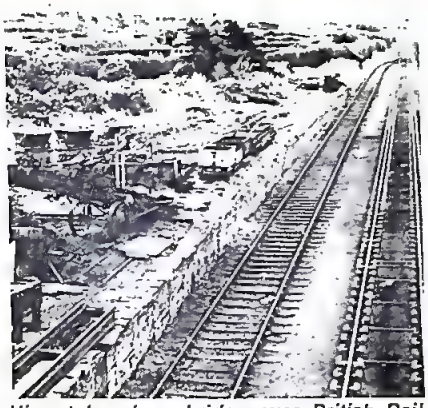
A most unusual locomotive is the double ended Fairlie of the Festiniog Railway. The author road the cab of this particular locomouve on his recent visit to Wales.

0-4-0 No. [illegible] prepares to do a little switch[illegible] at Towyn Wharf on the Talyllyn Railway.

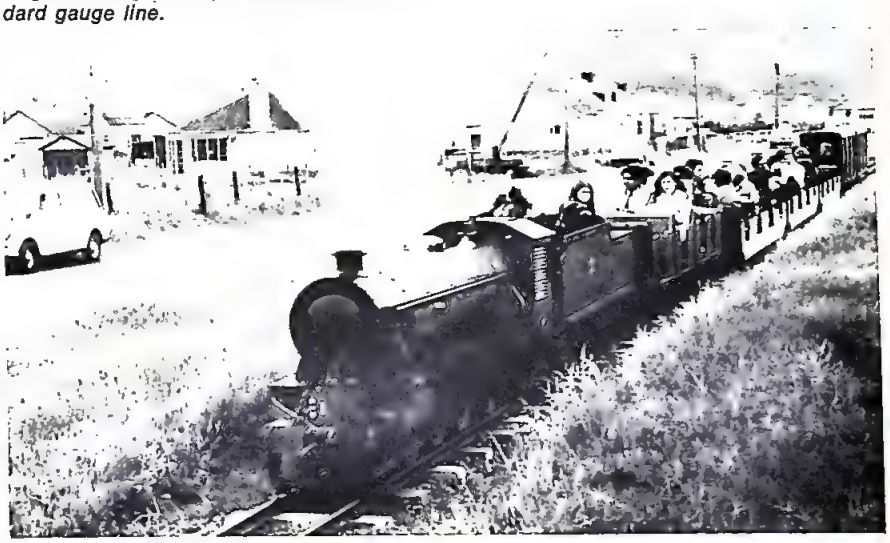
"Dolgoch," was also built by Fletcher Jennings as an 0-4-0 but a year later in 1866. No. 3, "Sir Haydn," was built in 1878 by the Hughs Locomotive and Tramway Engine Works for the near-by Corris Railway and is on 0-4-0. No. 4, "Edward Thomas," was built in 1921 as an 0-4-2 by Kerr Stuart for the Corris and was fitted with a Giesl injector by Dr. Giesl himself. No. 6, "Douglas," is an 0-4-0 tank engine built by Andrew Barclay Sons and is similar to the Orenstein-Koppel locomotives built in Germany.

You will encounter the line in a small yard at Towyn where you will buy your ticket and board the train. The trip takes about two hours and is spectacular. The preservation society is at present extending the line up to Nant Gwernol which will add even more time to the ride. Make sure you see the exchange sidings at Towyn where the line used small wagon turntables to turn the slate wagons at right angles to avoid the use of curves. Also note that only one side of the train has doors since the cars are never turned around. The engine facilities and workshops are at Pendre which is right up the line from the terminal at Towyn.

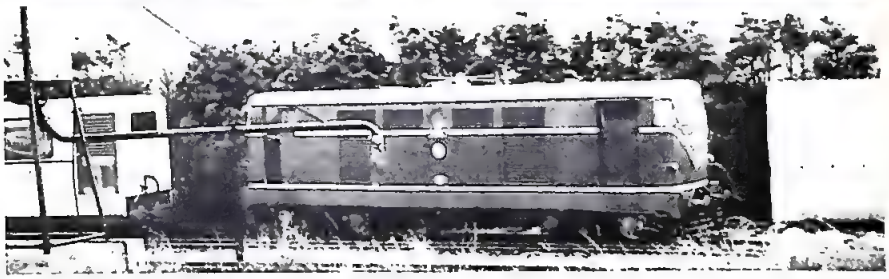
After your visit at Towyn drive north along the coast on A493 following the coast and you will come to the small town of Fairbourne. There is a 15" gauge miniature line here that has run along the beach since 1911 and was built using engines from the well-known firm of Bassett-Lowke of Northampton. This line runs for about two miles from the main station at Fairbourne along the beach to the point at Penrhyn where there is a ferry for crossing to Barmouth on the other side of the river mouth. The old bell towner for calling the ferry can still be seen. There are several fine locomotives in steam and internal combustion as well as a neat and tidy station and engine house at



View taken from bridge over British Rail mainline showing the unloading area known as the 'Wharf.' The stone wall is the wharf where slate was unloaded directly from the n.g. onto standard gauge cars. Wagon turntables were used to get the n.g. cars parallel to the standard gauge line.



A passenger train runs along the edge on the beach about halfway down the line of the Fairbourne Railway, built in 1911. The line uses live steam locomotives built by Bassett-Lowke.



At the 15" gauge Fairbourne Railway, sitting quietly next to the bird bath, is one of the boxy diesel locomotives. The facilities are rather spartan but get the job done.

The gauge may be small but the facilities aren't. The large brick structure is the engine shed for the British Railways' Vale of Rheidol Railway.

The small saddle tanker of the Talyllyn Railway sits amidst the bright red side door coaches at the Towyn station.

"Blanche" that's her name, prepares to depart from Portmadoc station. Note the inclined cylinders on the tiny 0-4-0, originally used on the Penrhyn Quarry Railway.

The Talyllyn little 0-4-0 "Douglas" sets steaming and gleaming at Towyn. Like all of the line's locomotives, No. 6 is well maintained and most photogenic.

The blue and red of the Vale of Rheidol is clearly seen on this 2-6-2T taken at Devil's Bridge. Note that the locomotive also carries the British Rail emblem.

The Alco locomotive of the Festiniog Railway is coming off "the Cob" into Portmadoc station. This locomotive was built in 1917 for use on a sugar beet railroad.

The center car of the Festiniog string is an original quarryman's coach with the seats running lengthwise and the wheels coming up into the seats. It must have been hell in one of these at 5 a.m. on the way to the quarries.

Diesel fans are also taken care of on the Festiniog as can be seen by this diminutive little locomotive. They are often used on the first and last trips of the day.

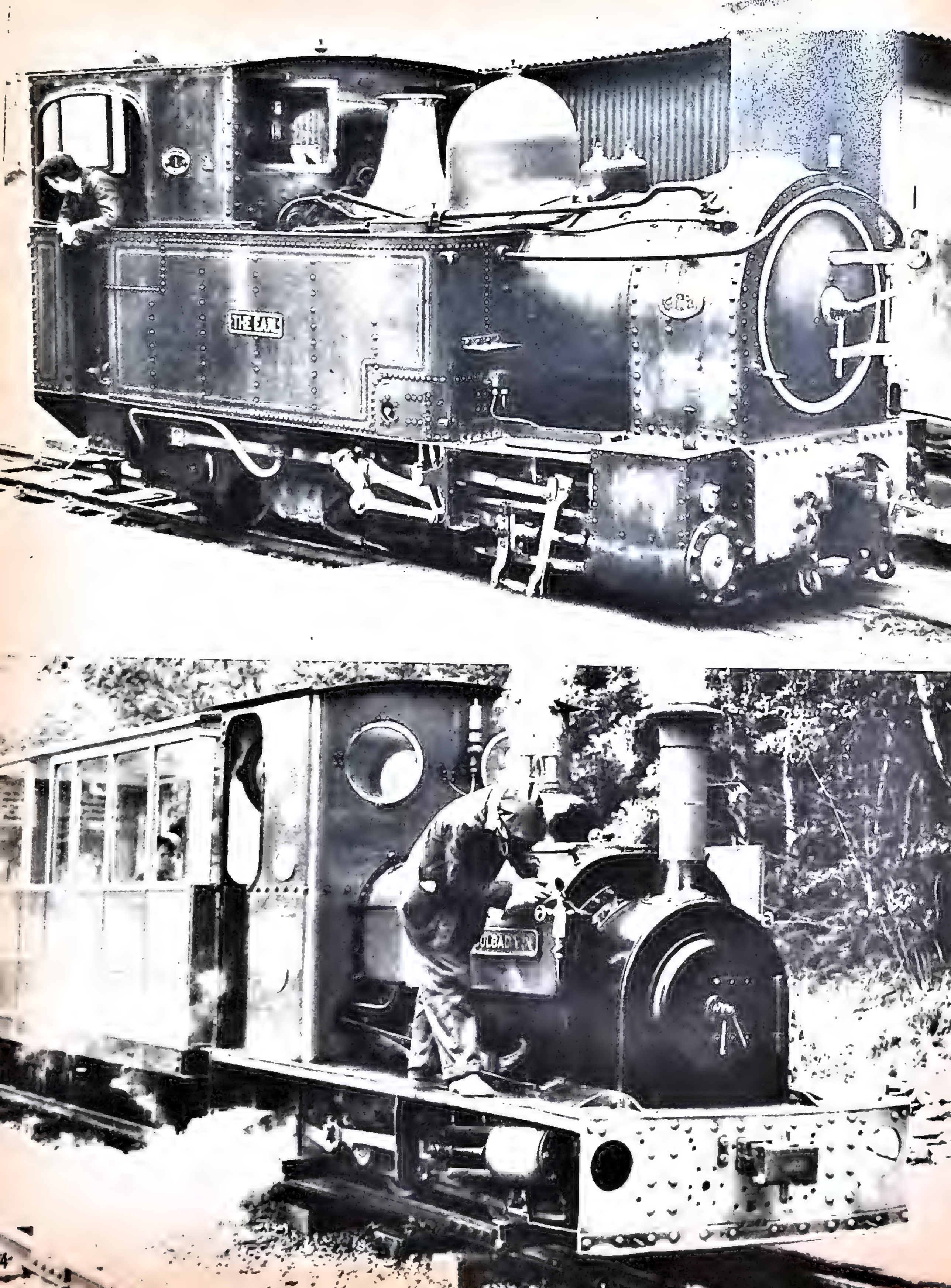
Fairborne. Other than this and the ride there is not much else to be seen.

Your trip now continues north to the real gem of the narrow gauges, the Festiniog. As you drive up to Portmadoc on the coast you will pass the new atomic power station and will then drive across the causeway leading into Portmadoc. This causeway was built between 1807-1811 which was before the railway and is known as "The Cob." As you stop to pay your toll look up to your left and you will see the Boston Lodge which is the main shops of the line laid out on a curve in very little space. I would get a B&B in Portmadoc as you can spend several days seeing railways in this area and still stay in one spot. The main station in Portmadoc is now surrounded by new beach homes. These homes are on what was the slate wharf. Old photos show this area alive and forested with the masts of schooners in days gone by.

The Festiniog is quite a railway. You can see up to four trains in steam during the summer months and the action on the line is terrific. It is a first rate effort with all the employees in uniform. They also run an observation car where you can be served a drink while running up the line. The trip is about two hours long and is spectacular. At points you look across the valley and see the down train on the horseshoe curve across the valley. The clearances are so tight that the passengers are locked into the coaches so they won't open a door at the wrong time. The line is laid to the gauge of 1 foot 11-½ inches and was the railway which proved that such small gauge engines could actually work. Remember this is the line built by James Spooner which influenced our own George Mansfield to come home and construct the Bellerica and Bedford in Mass., which was our first two foot line.

The railway runs from Portmadoc station up two valleys to the end of the line at Ddualit. When the railway was actually hauling slate it connected at both ends to the mainline railways which always intrigued me. Several years ago the government came along and flooded the right of way above Ddualit thinking no one cared about the old railway. They needed the area to make a lake in conjunction with the new atomic power plant. The preservation society took the government to court and won a suit and damages. As a result the society is building the line on beyond Ddualit to connect with the other end of the line at Blaenau Festiniog and will eventually operate the whole original line but skirting around the lake made by the government.

The loco roster is varied and unusual. There are two Fairlie locos, No. 3 "The Earl of Merioneth" and No. 10 "Merddin Emrys." I was fortunate enough to get a footplate (cab) ride on No. 10 last July which


THE KING
GULBADEN

This husky little 2-4-0 was built in 1902 by [illegible] Peacock. The outside frame locomotive is painted the familiar green as seen on so many British lines.

I will long remember, "Linda" and "Blanche" are a pair of 0-4-0's which came from the Penrhyn Quarry Railway and have odd inclined cylinders to make them shorter for the restricted working of the quarries. A rather modern looking Alco completes the

The Boston Lodge repair facility is also a resting place for many types of equipment no longer in use. These cars are typical of those that hauled slate on the Festiniog Line.

The name "Nutty" seems appropriate for this Sentinal steam locomotive which has a vertical boiler, with the profile of a small industrial diesel switcher.

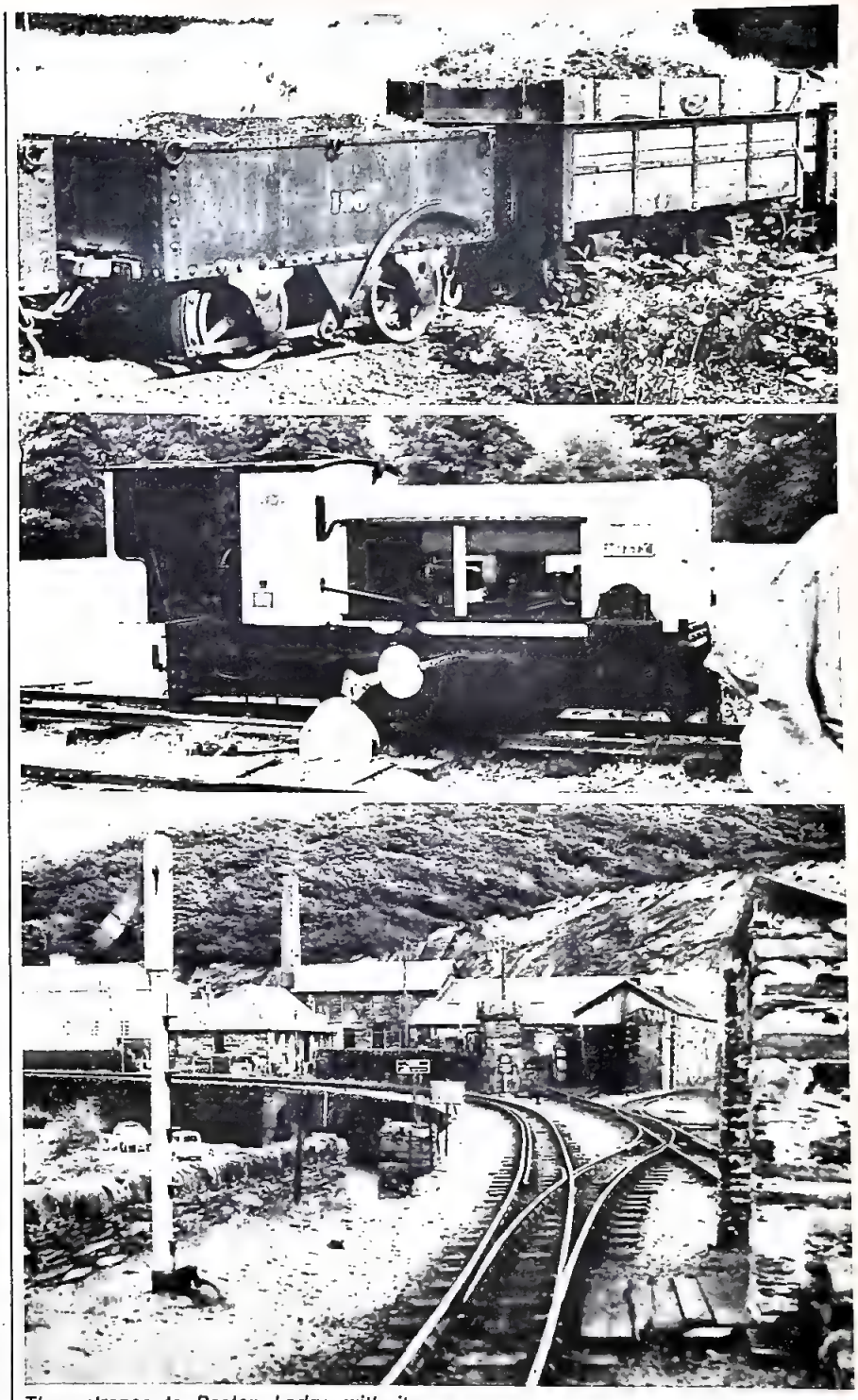
steam roster. This loco was built as a war department engine in 1917 and came from the Tramway de Pithiviers a Toury, which was a sugar beet line. This loco is the only surviving War Department loco still working in the United Kinigdom.

There are several locos awaiting rebuilding. These are the original Festiniog locos, The Princess and The Prince which are both 0-4-0's. The Welsh Pony which is a larger design of the Prince, a Peckett 0-6-0 ST and the famous Beyer-Garratt from Tasmania built in 1909 as the first Beyer-Garratt. There are also five internal combustion engines on the line. Beware that the first and last trains of the day may be hauled by one of the internal Combustion locos and not by a steamer.

I'll just mention in passing that there was another 1 foot 11½ inch gauge line that interchanged with the Festiniog at Portmadoc known as the Welsh Highland. You can still see the right of way as you drive over to the next little line. Make sure you go out of Portmadoc via Tremadoc at the north end of town and turn on to A498 and you will see the abandoned right of way.

Stay on A498 until you come to A4086 which will take you over the Pass of Llanberis where you will find the newest of the Great Little Railways which is located at Llanberis. As you drop down the pass watch on your right for the miles of abandoned quarries. These are the Dinorwic Quarries and had many miles of quarry lines under steam until 1961. The line which connected the quarry lines with the outside world was known as the Padarn Railway which was built to the unusual gauge of

One of the Huslet 0-4-0 locomotives of the LLRR gets its displacement lubricator worked on. The engineer, Vic Bradley, told me the lubricator was more trouble than the rest of the engine to maintain.



The entrance to Boston Lodge with its many picturesque stone buildings. This is the main repair facility for most of the little lines.

four feet. The slate wagons were carried on transporter wagons where they could be unloaded directly into the ships at the end of the line. They could also load coal from the ships and deliver it to a loco shed some nine miles, fifteen inclines, and 2000 feet altitude away without transshipment.

The Llanberis Lake Railway has been built along the right of way of

(Text continued on page 73)

BY WILLIAM CLARK
PHOTOS BY THE AUTHOR

LOCOMOTIVES OF THE ERIE LACKAWANNA

In unusual action, a [illegible] accompanied by an RS3 runs long [illegible] forward ... Griffith, Indiana. The U[illegible] and some of the Erie Lackawanna [illegible] are dual control equipped.

The Erie Lackawanna Railroad, born of the joint economic difficulties of the Erie and the Delaware, Lackawanna, and Western railroads, has emerged through ten years of difficult economy, natural disaster, and encirclement by the largest railroad in the world to maintain a prominent autonomous position as one of the most interesting and colorful railroads in the east.

Running from Hoboken, New Jersey to Chicago, the E-L is primarily a through freight railroad, with the exception of commuter operations in New Jersey on the East end, and a limited commuter train operation between Youngstown, Ohio and Cleveland, Ohio. Much of the E-L freight traffic is received from the belt railroads around Chicago, and from connections in New York and New Jersey, including connections with the Delaware and Hudson Railroad, which provides routing for much traffic originating or terminating in New England.

The scenery and terrain of the E-L right of way are widely varied. From an eastern riverfront terminal in Hoboken, New Jersey, the railroad traverses the rolling hills of western New Jersey, the fairly difficult terrain of northeastern Pennsylvania and central New York states generally following a series of river valleys west and north, winds through decreasing grades in eastern Ohio, and from Galion, Ohio westward operates over nearly level terrain to Chicago. The railroad abounds in both man-made and natural scenic wonders. Among the most notable of the former are the viaducts at Starruca and at the Genessee River, and among the latter the numerous river valleys through which the E-L runs in New York state.

To assault this varied terrain, the E-L utilizes a motive power fleet encompassing a considerable spectrum of builders and models, and which is most notable for some unique vari-

Motive power on this eastern road is either quite old or very modern . . . but is certainly not dull

A GP35 and an RS2 await crews in a night time exposure on the ready tracks. The GP35 displays the distinctive snow visor once attached to most EL units of this type. These visors were superceded by internal modifications to their air intake system they shield, and are now being removed.

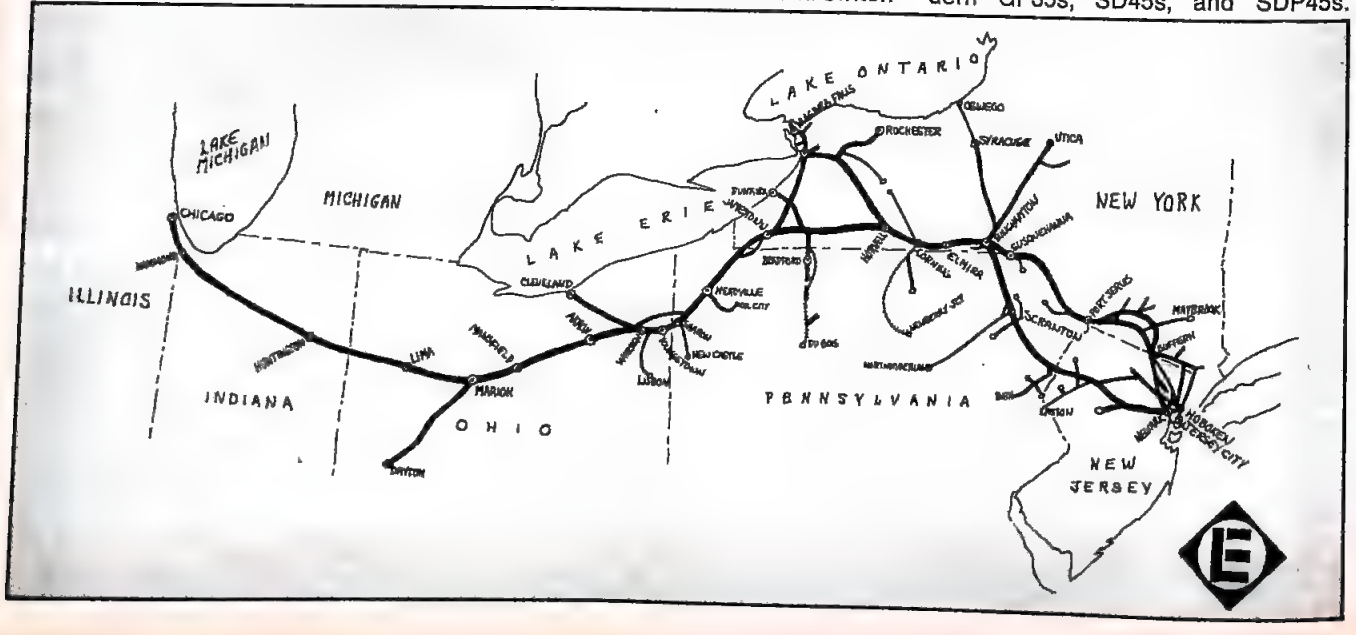
3305
3305

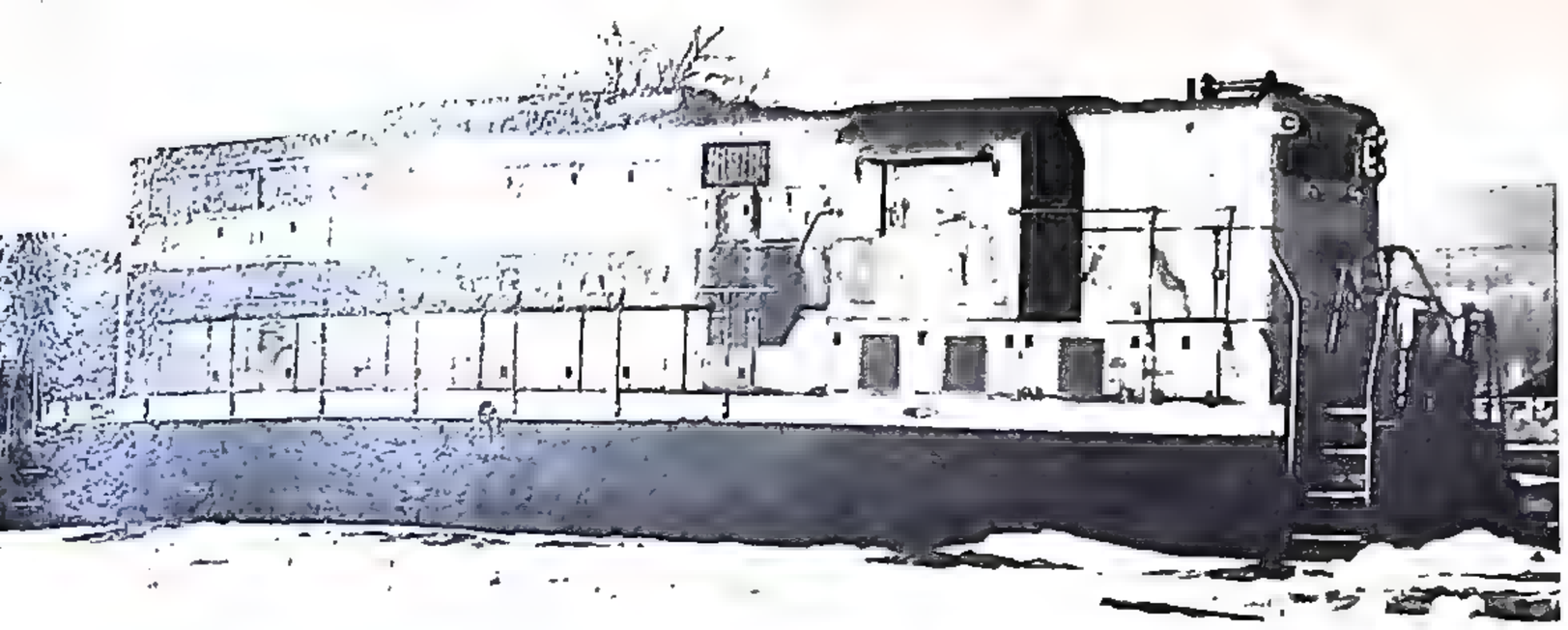
2568
ERIE LACKAWANNA
912

Despite recent attrition, due mainly to trade-ins, F3s and F7s continue to operate regularly in road freight service, occasionally running in matched sets of as many as five units.

ations of production model locomotives, and for the absence of certain types of locomotives generally thought common on other railroads. Perhaps the most obvious observation which can be made regarding the Erie-Lackawanna road power fleet is that most power is either quite old or extremely new, with a notable lack of the interim models between early 1500 horsepower range road switchers and covered wagons, and the 2500 horsepower and up four and six axle road switchers which comprise the recent locomotive additions. This is visible in both the EMD and ALCO power fleets.

Erie Lackawanna's EMD power originates from the fleets of F3s, F7s, GP7s, GP9s, and E8s which were inherited from the Erie and the D, L&W. Recent additions have been the modern GP35s, SD45s, and SDP45s.





GP-7s such as the 1408 shown here at Wellsville, New York, are used in local and through road service, primarily on the east end of the railroad.

Lacking are the intermediate models such as the GP18s, GP20s, GP30s, and lower powered SDs common to many other railroads. Likewise the ALCO fleet which originated with the RS2s and RS3s from the parent railroads was supplemented by the more modern Century 424s and 425s, skipping completely such transitional ALCO models as the DL701. General Electric locomotives, relative newcomers to the road power fleet, are U25Bs and U33Cs. Baldwin and Fairbanks-Morse road locomotives have been sold or disposed of, and a small group of Baldwin switchers and an accident-damaged ALCO S2 which wears a transplanted Baldwin switcher cab are the only evidence of this builder on E-L property.

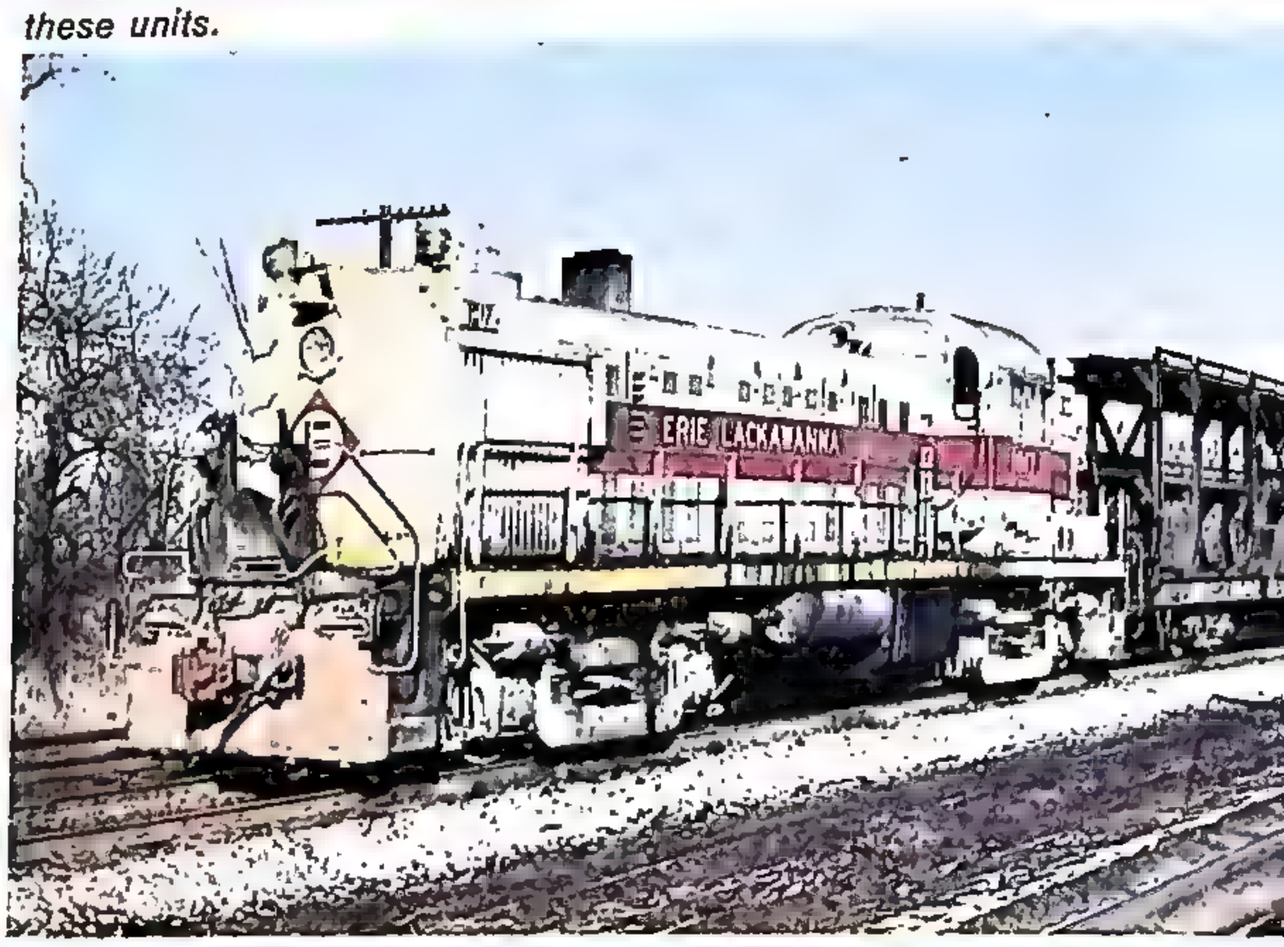
An unusually wear marked Alco Century locomotive leads an EMD F unit on a westbound at Marion, Ohio. Principal differences between Century 424s and 425s are internal, although they can be distinguished by the appearance of their radiator area.

The railroad retains a number of F3 cab and booster units into late 1972. Among these are units representing three production variations of the side panels on this type locomotive. Most of the F3 fleet have had the high fans used on early production removed, and at the time of this writing only one F3 cab retained both high fans and small number boards, while several booster units retain their high fans. Many of the late production Fs on the Erie Lackawanna have the F7 style side panels, and some of the F7 electrical equipment features. These units are classified by the railroad as F7s, and can be distinguished only by their dual slot dynamic brake vents from true F7s. Due to accident damage, several units have had side panels swapped or upgraded, and a number of units which appear to be F7s from one side are F3s from the other. Most of the F3s may be traded in on new locomotives announced for delivery this fall, leaving the covered wagon fleet almost entirely F7s and Es. Erie Lackawanna has no F9s as such, but four late production F7s have F9 style stainless steel side grilles with F7 body panels, adding an additional variation for diesel spotting fans. These units, numbered

The relatively unheralded Canisteo River valley in central New York state provides many excellent locations for photographing Erie Lackawanna action. Typical is this consist of EMDs and an Alco Century pulling upgrade along the river near Adrian, New York.

Commuter E-8s, wreathed in smoke and mist from their steam generators, await morning operation on an inspection train. The E-8s promise to be around for some time to come.

Alco RS2 and RS3 road switchers are rotated between yard and road service. Road lashups on the west end of the railroad often see as many as five of these units.



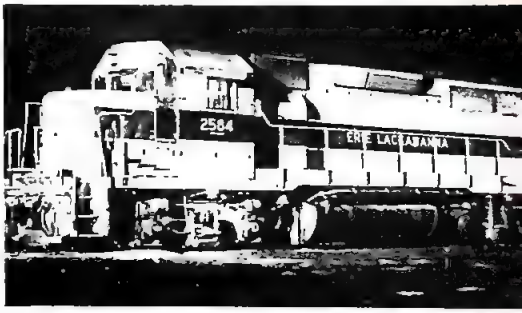
A pair of Alco Centurys tackle a long freight in the Ohio countryside near Kenton. The semaphore signals, becoming rather rare in modern railroading, are common on much of the Erie Lackawanna main line.

A pair of new delivery Union Pacific Railroad U30Cs trail a duo of EL GP-35s near Kenton, Ohio. The Union Pacific locomotives were placed in service at Marion, Ohio under a special agreement between the two railroads.

7121 through 7124, are two cabs and two boosters.

The E unit fleet inherited from Erie and D, L&W are being re-geared for freight use, and will probably operate for some time to come. Formerly D, L&W units were easily identified by their two headlight castings, however in some cases accidents have caused the headlight equipped nose door to be replaced by a plain one, thus confusing the use of this spotting feature. While all Erie Lackawanna E units are E8s, at least two units have had E9 style stainless side grilles installed, one of which, the 813, has the E9 grilles on only one side. Former Erie E8s can readily be distinguished by the fact that they have reverse sanders on each truck, and an extra sandbox with ex-

The sizeable fleet of GP35s are utilized in virtually all applications except yard work. Frequently MUed with SD45s and U33Cs for high speed service, they are also used with F3s and F7s in less precise applications, and occasionally operate long hood forward.



With the exception of a few units reserved for commuter operations, the E8 fleet is being modified with new gearing and electrical alterations for freight use. They generally operate on the west end of the railroad, and on the Dayton Branch.

No, the Erie Lackawanna is not running passenger service in competition to Amtrak. A pair of steam generator equipped E-8s makes a fuel and water stop, with an inspection train bringing up the rear.

With a new Southern Pacific GE locomotive tucked in behind, two Alcos head out the 'west end' toward Kenton, Ohio and the eventual terminus in Chicago.

ternally visible filler hatch behind the cab, making them among very few units so equipped. The majority of the E-L E units now have flush side panels with no portholes, and "freight" style pilots similar to those on production F units.

GP7s and GP9s run in several variations on the E-L, including the "torpedo boat" style with air tanks roof mounted. These units are generally seen east of central New York state, and are utilized for many applications from yard to main line.

The E-L GP35 fleet, numbered 2551 to 2586, are utilized system wide for a variety of service applications. Many of these units were formerly equipped with a visor over the central air system intakes, but these are now being removed and are the expection rather than the rule.

The SD 45 fleet is currently comprised of three separate classes of units. SD45s 801, 802, and 803 are former EMD demonstrators acquired from the Delaware and Hudson Railroad in a trade-off with three former Erie Lackawanna U33Cs going to D&H. 802 and 803 have "L" shaped engineers windshields, the only E-L EMDs so equipped. All three units have exended range dynamic brakes, also the only such E-L units so equipped. SD45s 3601 through 3634 are "conventional" production units, having an appearance similar to the standard dynamic brake equipped SD45s common in many areas of the country. Units 3635 through 3669 are a special construction peculiar to the Erie Lackawanna, and quite distinctive in appearance. Built on the elongated frame of the SDP 45, and in fact classified by EMD as SDP45s, they have an extended long hood having an area at the rear similar to the steam generator housing of conventional SDP45s, but with a peaked rather than flat end. These units have given rise to at least two popular speculations among railfans, one being that they were purchased with intent toward an optional passenger capacity, the other being that the extension of the long hood was for later installation of radio equipment for center-of-train operation. While both of these theories are not without merit, the only apparent intent in purchasing the extended units was for the ability of the SDP frame to house a 5000 gallon fuel tank, rather than the conventional 4000 gallon SD45 capacity. The 5000 gallon tank allows an uninterrupted end-to-end of the railroad, run without the need for breaking the units from a train for refueling, provided of course that all the units in consist are of this type. The extension on the long hood is empty, and was apparently installed only to avoid making alterations to the carbody in order to "balance" the unit. Though longer than the conventional SD45s, they are approximately 2000 pounds lighter without variable supplies. The SD45 fleet will be further supplemented by the delivery in late fall of 13 SD45-2s, which will apparently be numbered consecutively starting with 3669.

In a scene out of the ordinary on the west end of the EL, a GP9 leads an RS3 eastbound out of the Marion yards at sunset.

A matched pair of GP35s accelerate downgrade from Canisteo, New York with hoppers in tow. Much of this area was devastated by the recent Northeast flooding, but at last report service had been restored in virtually all locations.

Erie Lackawanna's ALCO fleet started with the RS2s and RS3s in-These units are still very much in evidence, particularly on the west end of the system. In recent years the need for increased power in yard use has resulted in the application of RS3s to yard as well as road use, bumping a number of ALCO S2s from the roster in the process. Spotting features among the group of RS2s and RS3s are widely varied. At least two units still have black roofs on both hood and cab, a feature being eliminated from EL units as they are overhauled. Many of the RS2s are having RS3 type fuel tanks installed under the frame, and the tank under the cab closed off. RS3 1006, formerly an ALCO demonstrator, is in fact an RS2 carbody with RS3 electrical equipment, while sister unit 1005 is a conventional RS3 carbody. Recently a new RS3, 1004 began operating on the property, apparently the result of a trade off with the D&H. Among the former D, L&W units of this type there are several variations in layout of the long hood doors and louver grilles.

Erie Lackawanna has both ALCO Century 424s and 425s, the 424s being numbered 2401 through 2415 and the 425s being numbered 2451 through 2462. Among the 424s there is some variation in the radiator areas. The 425s, which can be distinguished from the 424s by the fact that they have flush rather than overhanging rear number boxes, are generally similar.

General Electric is represented on the E-L by a fleet of U25Bs in number sequence 2501 through 2527, and by U33C in sequence 3304 through 3315. There formerly were units 3301, 3302, and 3303, but these were traded to the Delaware and Hudson for the SD45 demonstrators 801, 802, and 803. On D&H, these former EL U33Cs have road numbers 751, 752, and 753. The General Electric fleet will be further supplemented in the late fall by the announced acquisition of thirteen new U36Cs. E-L also operates a fleet of U34CH units in commuter service in New Jersey for the State of New Jersey.

The fan can expect to see a wide variety of power in road service on the E-L for despite the presence of newer models the older locomotives are by no means held in reserve. Much of the freight on the Buffalo branch is handled by F3s and F7s, ALCO RS2s and RS3s handle numerous road assignments, particularly on the west end of the railroad; former passenger E8s, regeared for freight, see regular service particularly on the run between Marion, Ohio and Chicago; on the east end of the system GP7s and GP9s can be seen accompanying units ranging from covered wagons to SD45s. Further interest is generated by pool power from D&H and BN, and by the frequent shipment of new locomotives from GE via the Erie Lackawanna.

Clearly, the wide variety of terrain and assortment of motive power would make the E-L worthy of rail-fan attention under any circumstances, but an additional bonus is created by the continued application of the colorful grey, maroon, and yellow diesel paint scheme inherited from the D, L&W. The accompanying photographs demonstrate that though the EL is blessed with such scenic wonders as Starruca, the colorful diesels and heavy freight action can just as easily be appreciated in such unheralded spots as the Canisteo River Valley of Central New York State and the flatlands of western Ohio, making the Erie Lackawanna one of the most exciting railroads in the eastern United States to watch and photograph.

GP-35 2583 and its companions are working hard as they tackle grades eastbound out of Galion, Ohio.

SNOW FIGHTERS

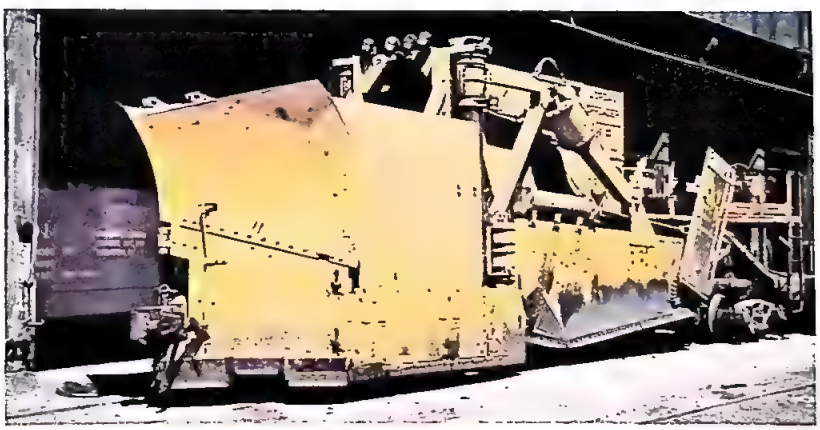
A SPECIAL BREED OF MACHINE

By John C. LaRue, Jr.

All photos from the author's collection.

Richard Pedler Photo

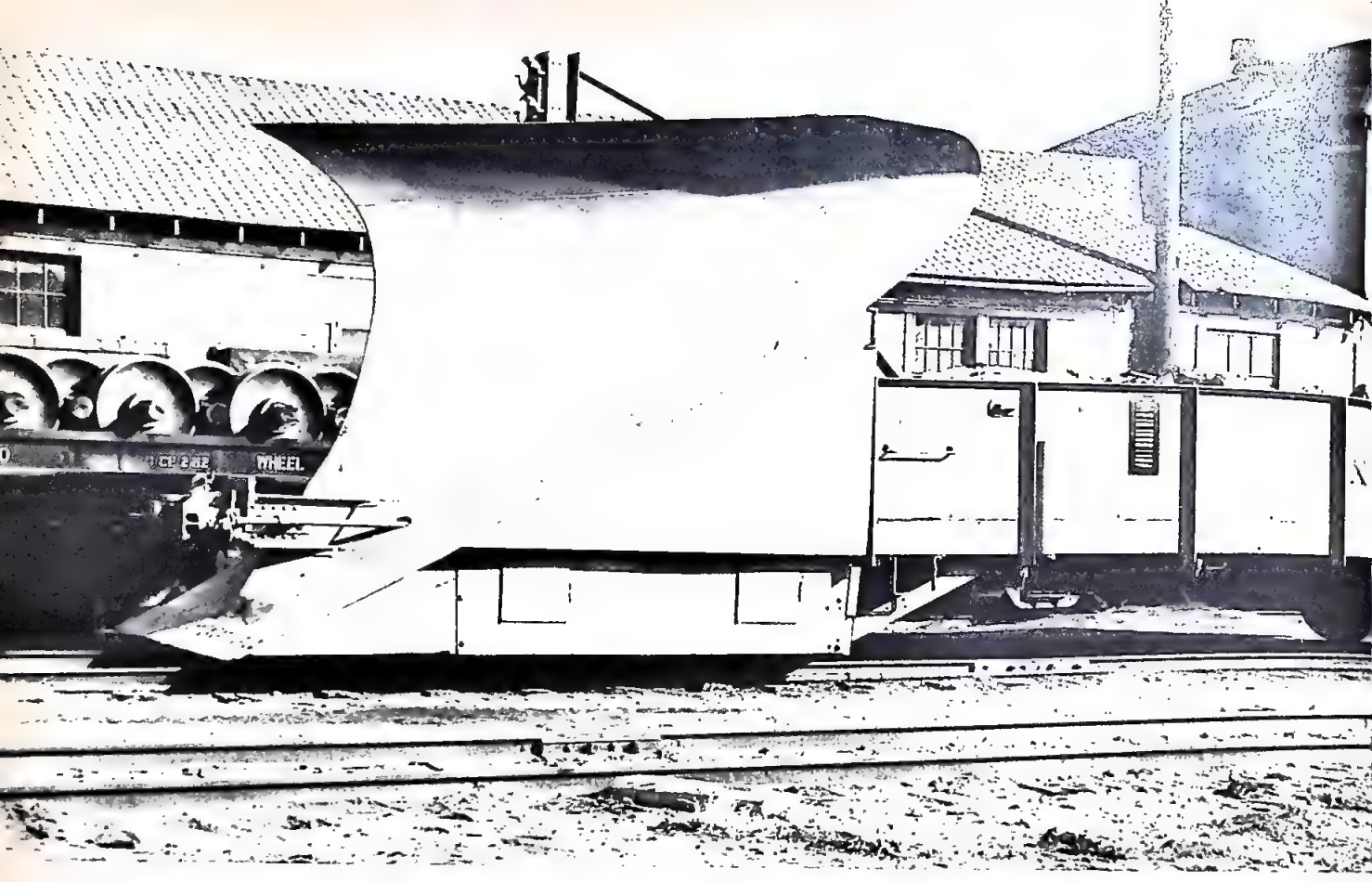
Resting at the Western Pacific shops in Sacramento, California is a Jordan plow and spreader. MW7 has extensions added to form a full sized snow plow blade.

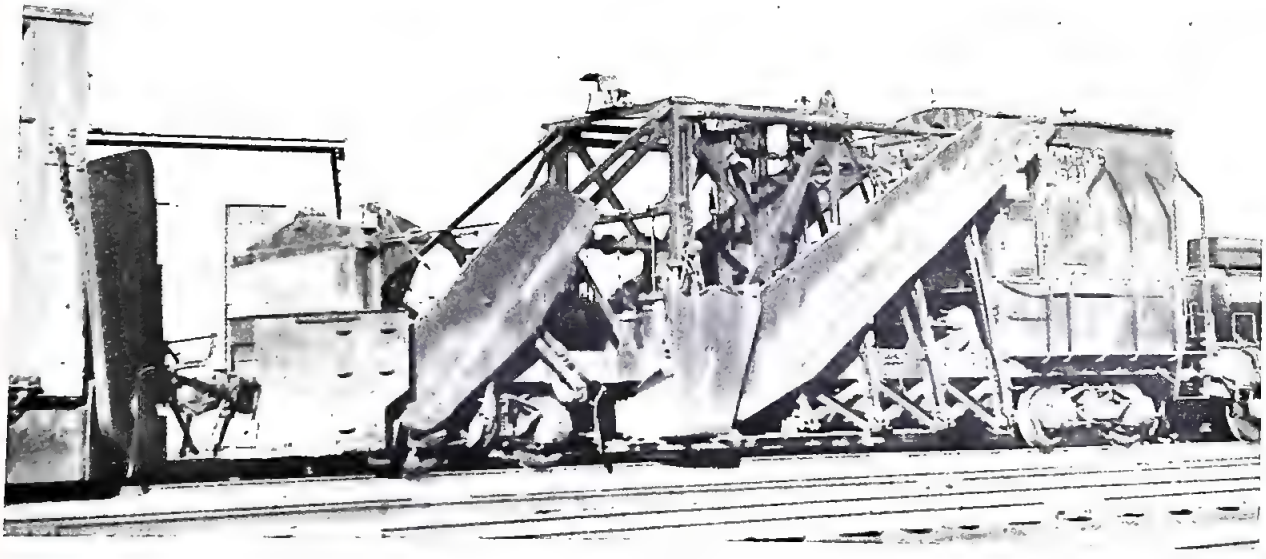


Snow removal is a necessary though unwelcome operation carried out periodically by most railroads during the winter months. In the early days it was done by gangs of men armed with shovels, but when the railroads were built across the plains and through mountain passes of the west it was soon found that something more efficient than manpower was needed.

The first attempt to plow through the problem was to attach a plow to the locomotive. These varied in size from little blades no higher than the pilot wheels, up to enormous iron plows that, viewed head on, hid everything except the stack. Even such large plows proved inadequate and most railroads soon turned to special cars for snow removal. The

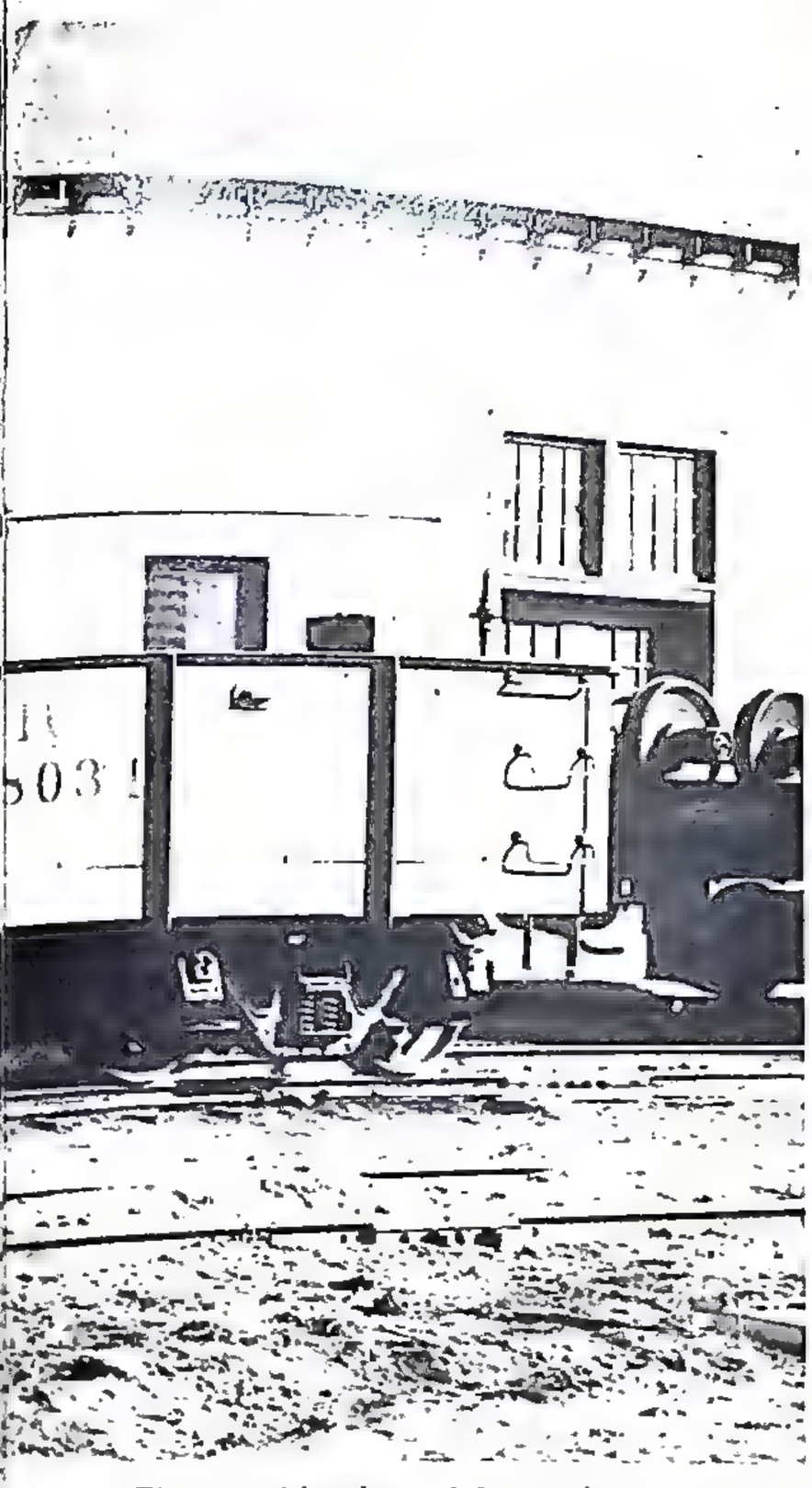
Snow plows, like much of the other maintenance of way equipment, are often made from hand me downs. The Soo Line W210 plow was made using an old tender frame, then building the plow and small shelter.





This unusual double wing spreader was used by the Northern Pacific. The air operated wings swing out to clear a wide path to prevent a fast build up of blowing snow. The car is now a part of the Burlington Northern system.

Yards often present special problems for the railroads. The Delaware and Hudson built this snow sweeper for use in the Albany port district.



The combination of ingenuity and economy provide the railroads with many interesting solutions. One is this Illinois Central wedge plow, converted from a steel gondola. These cars were filled with scrap iron or ballast to provide additional weight and force.

small "pilot plow" has continued to be characteristic of snow-ridden railroads right through to the present day; it is found on many diesels.

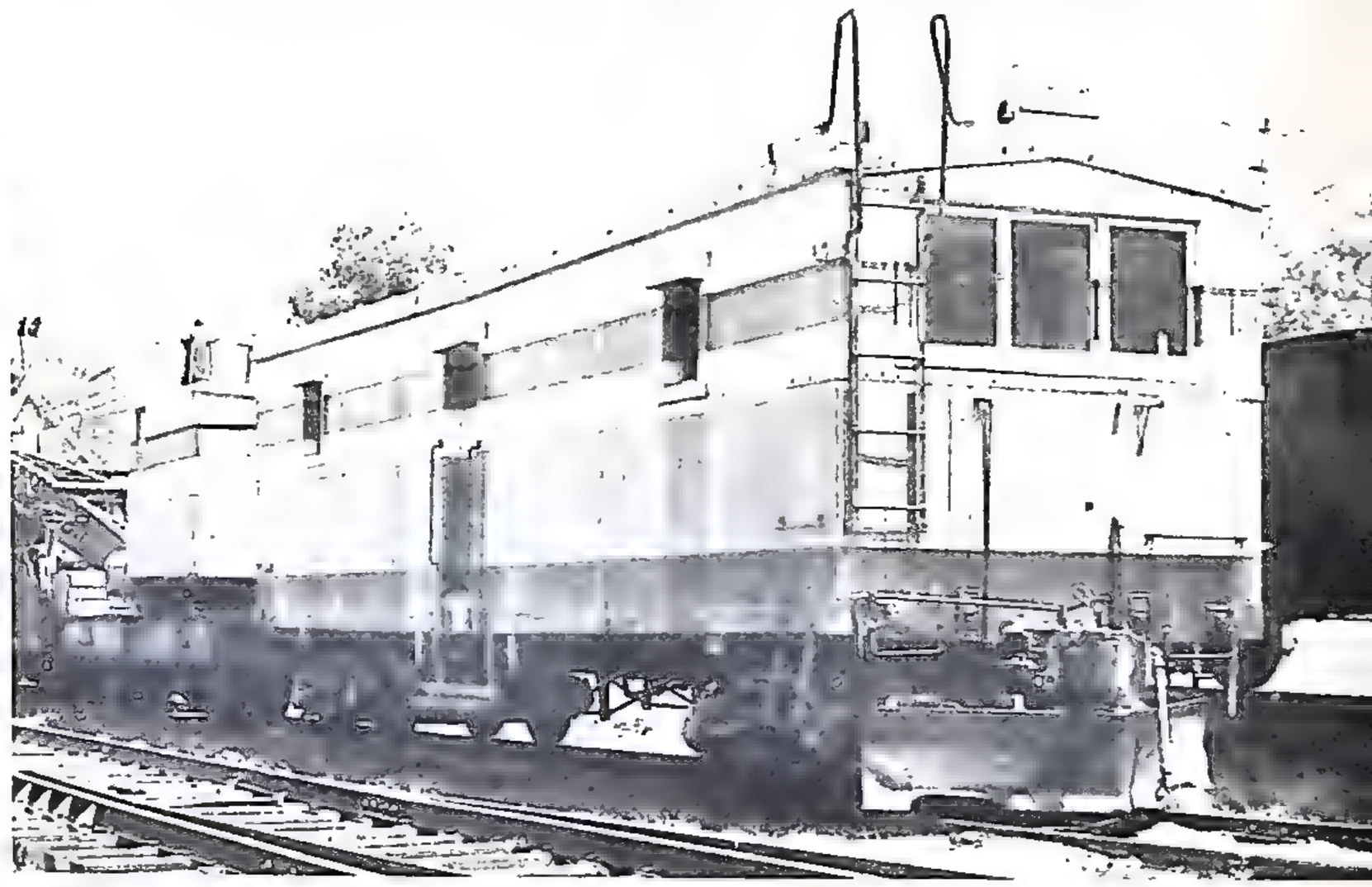
Where snowfall is light, these plows and the ordinary passage of trains are sufficient to keep the tracks open. Many railroads operate short trains on frequent schedules during snowy weather for snow clearing. Railroads located in these light snow regions can generally get by with a Jordan or weed burner when they do have an occasional heavy snow. But in most parts of the country snowplows are a necessity for any line that wants to stay in business during the winter.

The wedge plow was the first type widely used for snow removal. In use since the 1860's, the plow is shaped to slip under the snow layer, raising and forcing it aside, as it is propelled by a locomotive. Always the most common type of plow, it is effective against all but the heaviest snowfalls.

The most popular commercially built wedge plow is the Russell. It is also called the wing plow due to the auxiliary blades on the sides of the plow to widen the cut. The earlier Russells were of wood, reinforced with steel; the later ones were all steel. Usually the divided blade type is used on a single track, but "one side" or shear plows are found on double-tracked railroads.

The other commercially built wedge plow is the Jordan. The Jordan is actually a remarkable all-purpose machine, which, in its most complicated form, can plow snow, clear flangeways, spread ballast, dig drainage ditches, and shape the contour of the enbankment. The O. F. Jordan Company's slogan, "Does the work of an army of men" is no exaggeration. Originally an air-operated spreader, the other features were quickly added in the early years of the machine's development. Although not originally intended for use as a snowplow, it was quickly adopted for that service by railroads. The low wedge-shaped blade of the older Jordans is hinged in the center so that either side can be moved forward to form a full width shear plow. More recent Jordans may have a full-size snowplow blade.

Individually designed wedge plows are still built by some railroads as alternatives to commercially built plows. Short lines, in particular, seem to prefer the product turned out by the company's master mechanic, tailored to local conditions and often incorporating some ingenuity. Such a plow may be double-ended, especially on a former interurban line which did not have turntables or wyes. It may be built from the wheels up, like the snow dozers used on some western railroads, or converted from an old tender, gondola, or flat car. The already robust frame of a tender makes a fine basis for plow. Occasionally the body is retained and filled



This gaily painted flanger was built by the Baltimore & Ohio and later sold to the West Virginia Northern. This is a good example of a flanger with the blade ahead of the trucks.

with sand and gravel for added weight, an important requirement for a wedge plow. The flat car usually has low sides added to make a gondola which can be filled with stone, sand or concrete blocks.

The wedge plow is generally an effective tool for snow removal, but its efficiency is limited. Early efforts to clear drifts out of mountain passes required many locomotives (in one instance, 19) behind the plow and occasionally failed anyway. The plows were derailed by ice on the rails, or jammed into drifts from which they had to be shoveled out.

The Rotary was developed in the 1880's when these limitations of the early wedge plows were apparent. Several types of steam powered plows were tried at this time, including the Jull Snow Excavator, which resembled a rotary with a giant cockeyed augur in place of the wheel. But the "big wheel" proved the most efficient and is the type still in use today. It is found almost exclusively west of the Mississippi River, although a number were used by eastern rail-

roads, mainly in western New York State.

The "big wheel" of the rotary is actually a circle of radially arranged blades opening into cone-shaped cavities with their apexes meeting at the hub of the wheel. This assembly, which can be rotated at a speed of 150 rpm, is encased in a cylinder. As the machine is pushed forward, the whirling blades tear up the snow, which is pulled by centrifugal force to the outer edges of the cavities. When the cavities reach the exhaust opening near the top of the cylinder, the snow flies out in a stream which may land a hundred feet from the track. A pair of ice cutters clear ice from the rails, and a flanger blade

Many of the smaller roads resort to their own shops when the need arises for snow removal equipment. A case in point is the Marinette, Tomahawk and Western wedge plow. It may not be the most glamorous but it gets the job done.

McCloud River Railroad #1701 appears to be a very old Southern Pacific "Bucker" plow of a type that pre-dated the rotaries. That the early day wooden plows held up under the pounding is remarkable.

The bright orange flanger of the Southern Pacific is typical of many seen in service throughout the country. The flags on the roof show the position of the flanger blade. Crossings and turnouts requires the raising of the blade and means a hand digging job for the follow up crew.

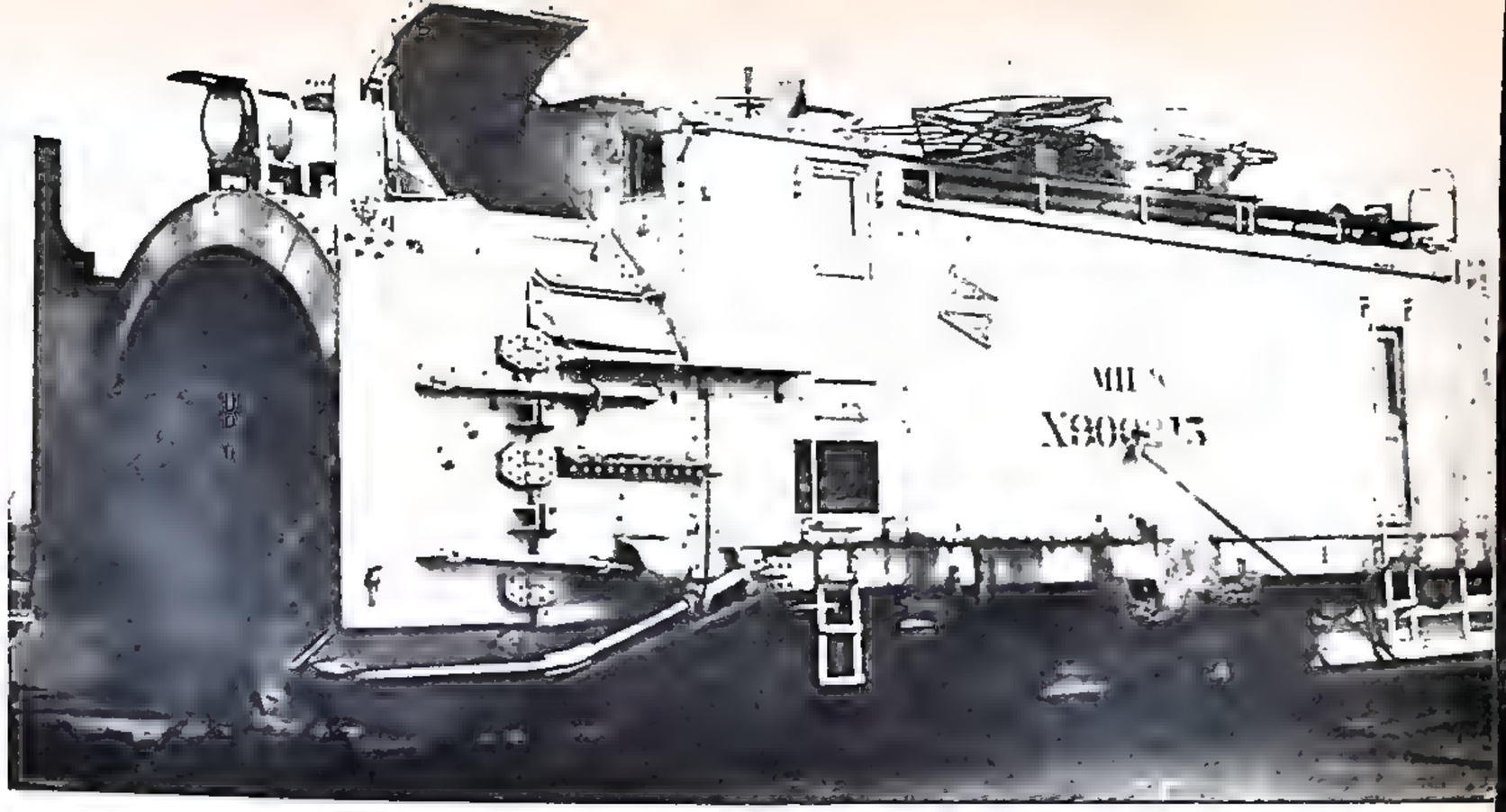
finishes the job, thus eliminating two prime causes of derailments of wedge plows. The biggest hazards to a rotary are boulders, which may be carried down by an avalanche, and the avalanche itself. The boulders may ruin the blades, and the avalanche will derail the train if it is still moving when the plow enters it.

The rotaries were originally steam powered, but most of the examples surviving have been converted to diesel-electric drive. Some have the engine and generators in the plow, such as the new rotaries recently built by the Union Pacific; others get their power from old B unit diesel locomotives coupled just behind the plow. The Milwaukee Road made an attempt to power a rotary from the overhead catenary on the electric

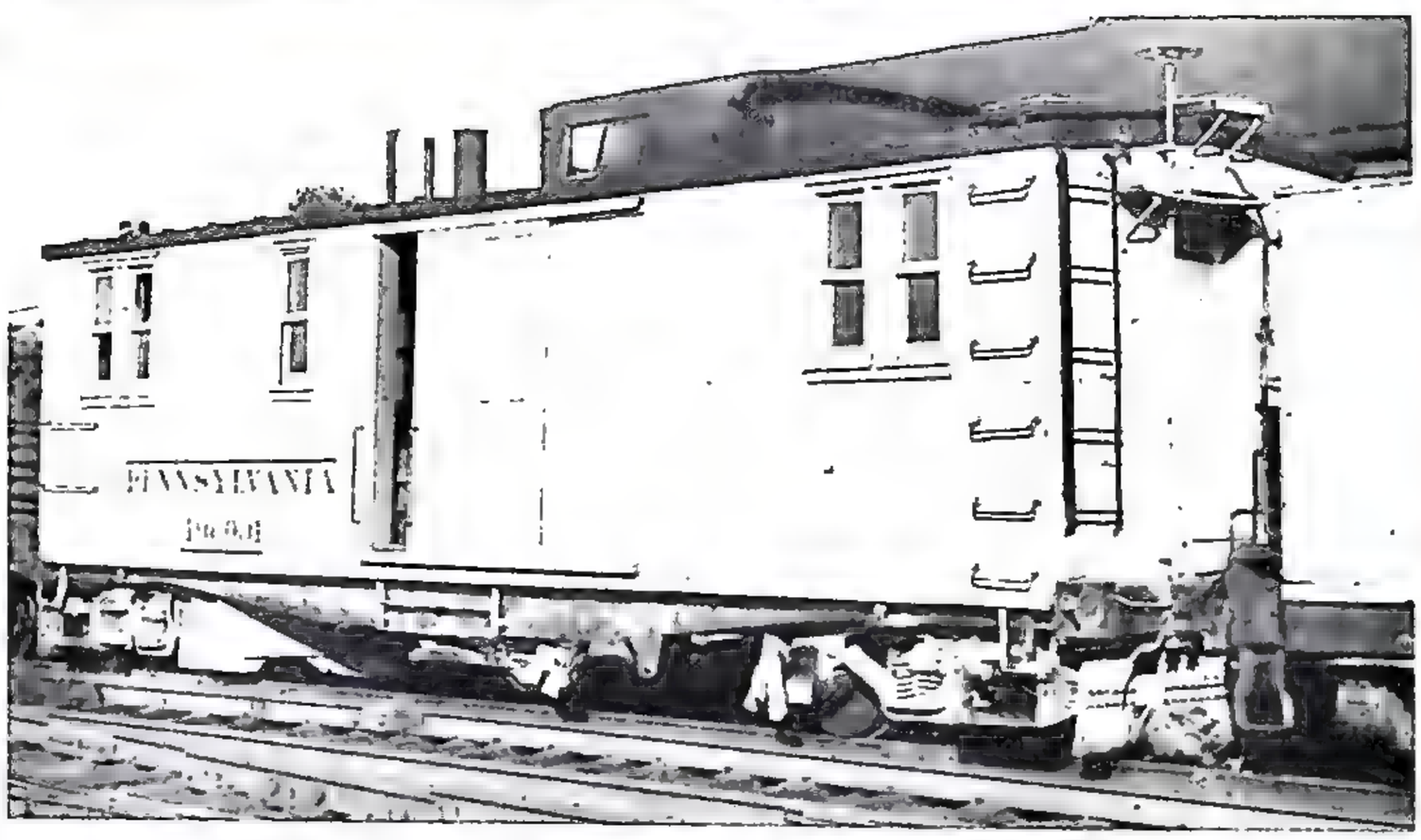
sions, [illegible] problems with synchronizing the rotary and the push-[illegible] locomotives led to its abandonment.

Other mechanical snowplows include the Bros snow melter, which can either throw the snow aside like a rotary or melt it, and the Barber-Greene, which carries the snow back to a melting tank on conveyor belts. Both types are more suited to clearing yards than for mainline work.

A flanger is a car equipped with small notched blades to scrape snow from between the rails, especially

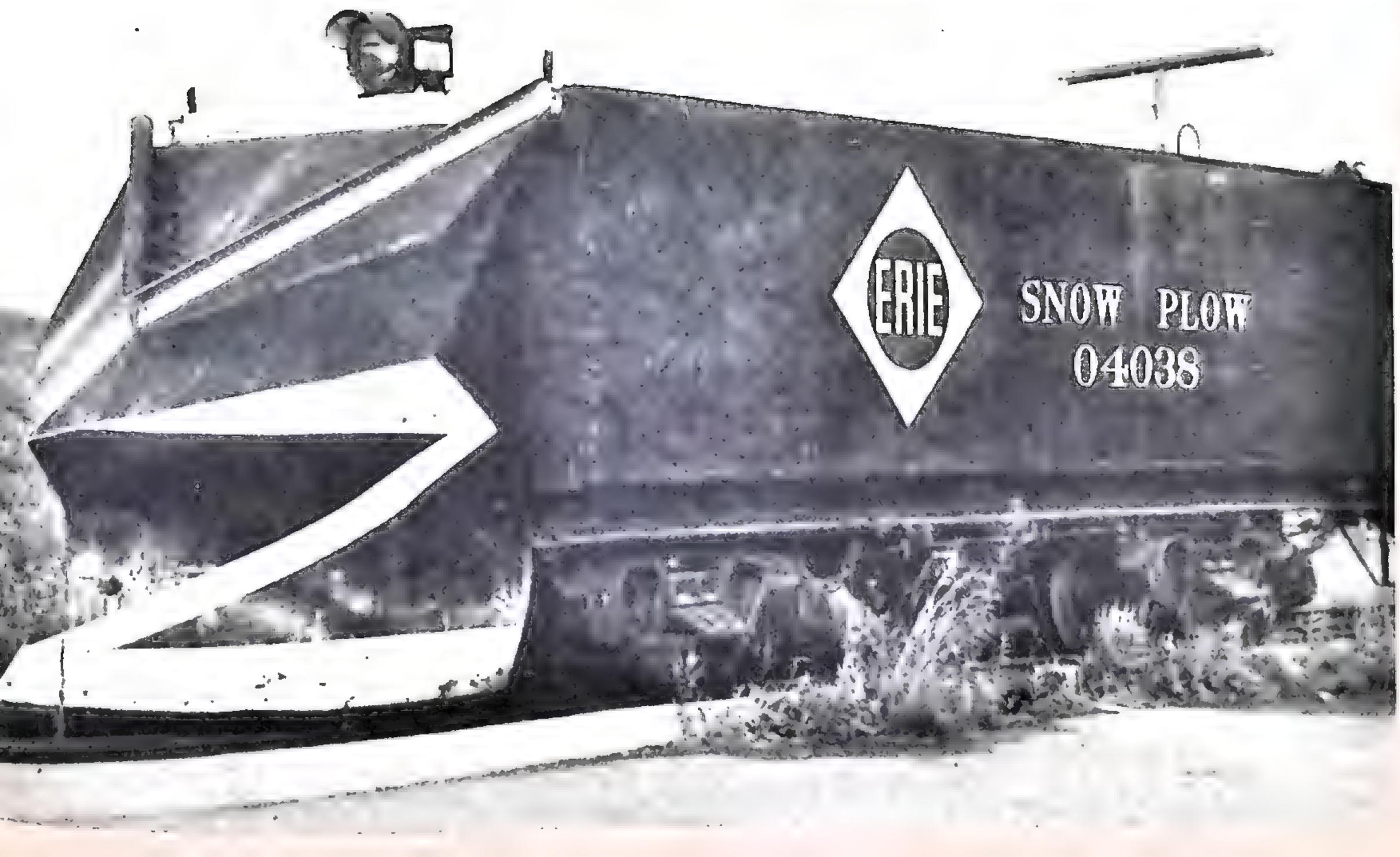


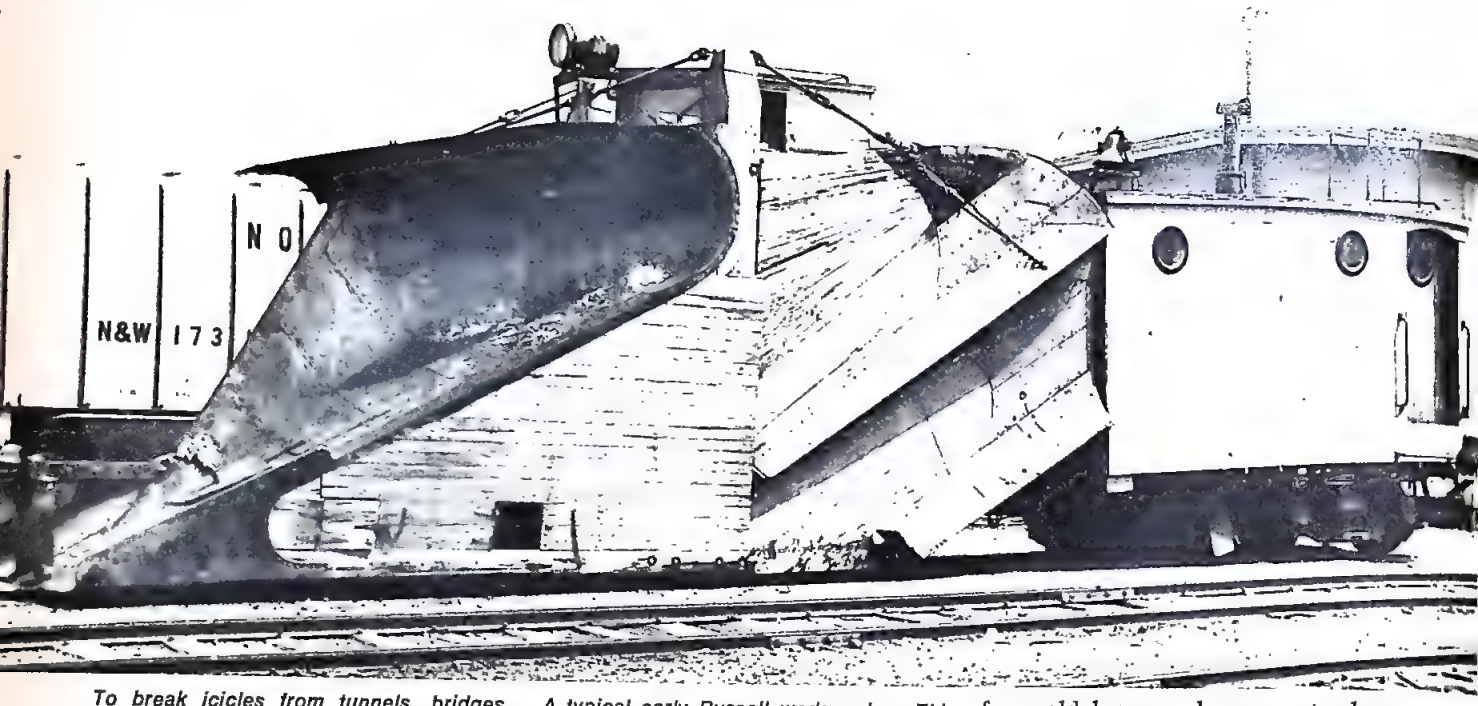
The Milwaukee Road tried out this electrically driven rotary plow. Note the extended hood on the plow blade housing to prevent snow from being thrown into the overhead catenary.



This Pennsylvania flanger is well equipped with a cupola for good vision and even the small sweeping brooms ahead of the trucks. The car was called the "pickle boat" by the PRR men due to the salt carried in bins for spreading where needed.

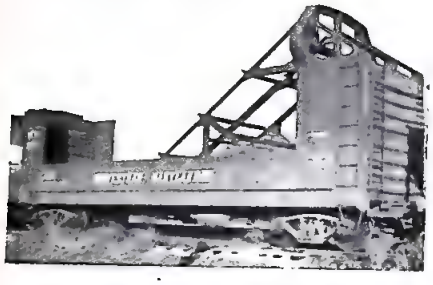
The Erie Railroad utilized a discarded tender as a basis for snow plow #04038. The sturdiness of the tenders made them ideal for snow removal.





To break icicles from tunnels, bridges, and other low obstructions Western Maryland converted an old box car. The heavy structural steel apparatus clears the icicles so they do not damage high cars and their freight.

A typical early Russell wedge plow. This one is owned by the Belfast and Moosehead Lake RR in Maine.



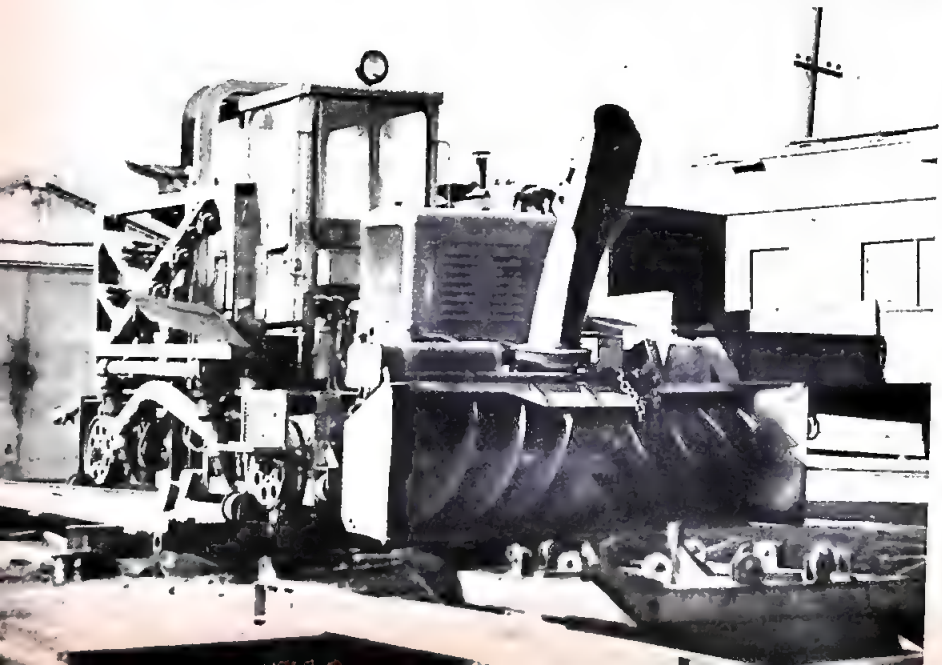
Another example of special equipment used to keep yard tracks clear is this self-propelled snowplow and blower. Small but effective.

along the inside of the rail top, to provide clearance for the flanges on railroad wheels. The blades may be mounted ahead of the lead truck, between the trucks, or even behind the rear truck. Although most snowplows have flanger blades, railroads operate flangers to supplement the snowplow and deal with light snowfalls.

The Jordan is the only commercially produced full-size flanger. The variety of railroad-designed flangers far surpasses the variety in snowplows. They are usually converted from old boxcars; however, tenders, flat cars, and even baggage cars have been used. Most of them have a cupola or bay window for the operator, and the inexperienced railfan who fails to spot the small blades usually mistakes one for a caboose. This observation point is very necessary, for in use, the blades will not pass through a highway crossing or a switch without being raised. Small signs are mounted on posts and telegraph poles near switches and crossings to warn the operator of these obstructions, which must be cleared by hand.

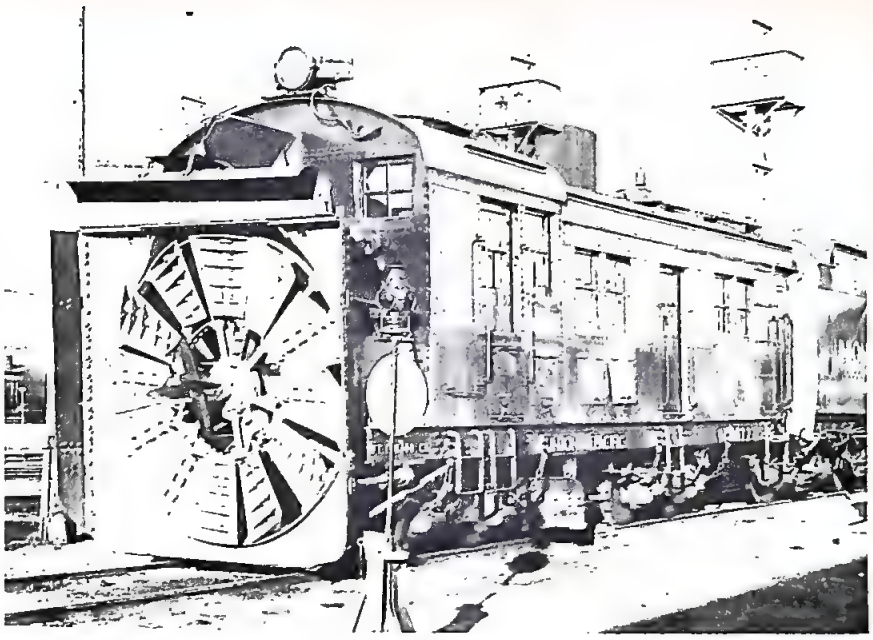
Another car used with the snowplow is the spreader. This car has very long blades which swing out from the sides to widen the initial cut made the plow, pushing the piled up snow away from the track to allow some room for blowing snow to accumulate before it again blocks the line. The spreader also comes in handy for clearing yard tracks since the long blade can reach across two tracks at a time. The Jordan again is the most common type of spreader. A few other designs are in limited use, mostly on the railroads which designed and built them.

Various small snowplows are also used by section gangs to clean up yards. Weed burners come in handy for this work, since they can melt the ice out of switch frogs, a frequent cause of derailments in winter. The ultimate in snow melting was devised by the New York Central when

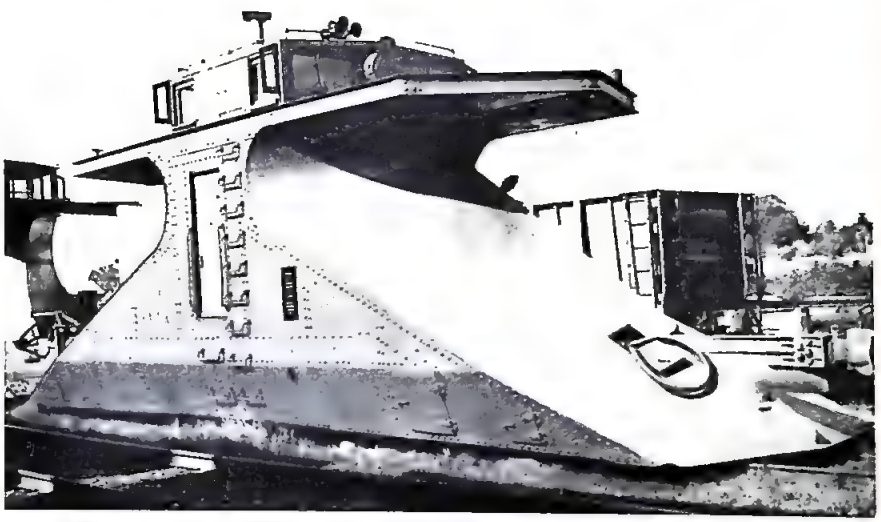


[illegible] mounted [illegible] surplus jet engine [illegible] old [illegible] body.

[illegible]on a really heavy snow descends o[illegible] railroad yards and industrial ar[illegible] require special attention. The work cranes used for track work during the summer are put to work picking up snow with their clamshells and loading it into cars for removal. Dump cars are often loaded, the snow being tipped down an enbankment or into a river from a bridge. Another system is to use a string of flat cars with side-mounted brake wheels. The cars are loaded with snow and pulled out onto a bridge, where a bulldozer or tractor with a plow runs down the string of cars, unloading them into the river. This was developed from the old Lidgerwood system of ballast unloading. Another way of geting rid of excess snow is to waybill the loaded cars to a warmer section of the country, where the lading is allowed to melt.



One of the very first rotaries ever built is this Union Pacific plow. Although much rebuilt it still has the line of the early Leslies. Built in 1887, this was constructor's number 3. The unit was recently scrapped.



A modern, all steel wedge plow as used by the Canadian Pacific. The double ender is used on portions of the line where turn around facilities are lacking.

Finding someplace to put the snow is often a problem. Short of shipping it to California or Florida, the nearest river is often the solution. Here a tractor pushes the snow from flat cars into the river below.

Street railroads and trolley lines are cleaned with a snow sweeper. This is a car fitted with cylindrical brooms, which are rotated by electric motors to sweep snow out of the flangeways in street rails. Once found everywhere on trolley lines and interurbans, these cars are now rather scarce.

Winter presents another problem besides snow. That of icicles in tunnels, which if dislodged by tri-level automobile cars can damage the paint and windows of the load. Special icicle breaker cars coupled into the consist have a high framework shaped to the clearances of the tunnel, to bring down icicles before the high-riding cars can strike them.

one mountain pass-three railroads

CAJON PASS, THE GATEWAY TO L.A. IS THE MEETING POINT OF THE WEST'S THREE MAIN RAILROADS.

By Donald Sims All photos by the author

In Southern California there's one feature which is most commonly thought of as a Santa Fe mountain, yet in fact brings all of the big three transcontinentals together for a few miles of not only physically brutal but highly dense railroading.

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PACIFIC

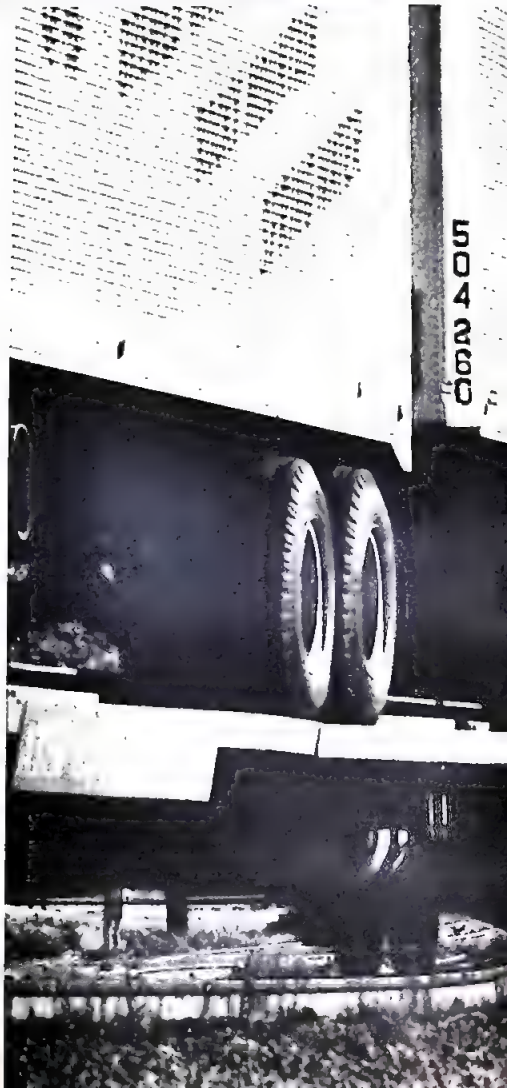
The name is Cajon and while long identified in the minds of many as a purely Santa Fe operation the U.P. has trackage rights across its double tracked profile and in the late 1960's Southern Pacific came by with a parallel single track project all its own. The couple of dozen miles of the pass and some trackage to the south is the sole spot in western states where you can find this trio rubbing elbows in their train operations.

Rather than staying strictly with the pass which lies north of San Bernardino we're going to spread the limits a little to incorporate Colton Tower on the south where Espee's heavily trafficked main line across the southwest right angles with the Santa Fe-Union Pacific main heading for the pass, and we'll go beyond Summit, Cajon's famous apex miles east of downtown Los Angeles and almost 100% of all tonnage that enters or leaves Los Angeles via eastern points clickety-clacks in rail cars across the steel at Colton. Just to the east lies a small S.P. yard which grooms a small stable of helper units both for Cajon Pass and for the heavier traveled southwest tonnage which must get through nearby Beaumont Pass. Units here are mostly GP's and are used in two's and three's both east and north.

West of the town Southern Pacific is busily constructing a six mile long yard and large engine servicing facility that will become its major focal point in Southern California, avoiding the pitfalls of congestion and lethargy that seem to inhibit

Fast drawbar—*that might be a westerner's accolade for the "Super C," Santa Fe's high speed freight schedule across the west. Here the Super C whips east out of Barstow Yard behind three F-45's, a standard profile on the fast freight run.*

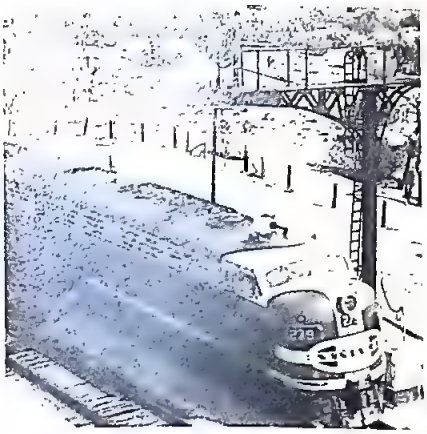
Three units makes five engines on the Union Pacific with its emphasis on double engined power. Here a westbound freight is seen at the lower end of the pass near San Bernardino.



to see what's at Barstow. Here Santa Fe mixes southland tonnage with that coming off it's northern California line in a desert setting that's not only hot by the thermometer but equally as torrid based on the number of trains it spawns.

From slightly above round in an aging wooden tower a towerman surveys two sets of double tracks that come at each other from 90 degrees apart. This is Colton Tower, sixty

With GP-30's on the point, a westbound freight crawls around the curve at Summit, plugs in the dynamic brake, and slowly with screeching flanges it will wend its way downhill to San Bernardino.



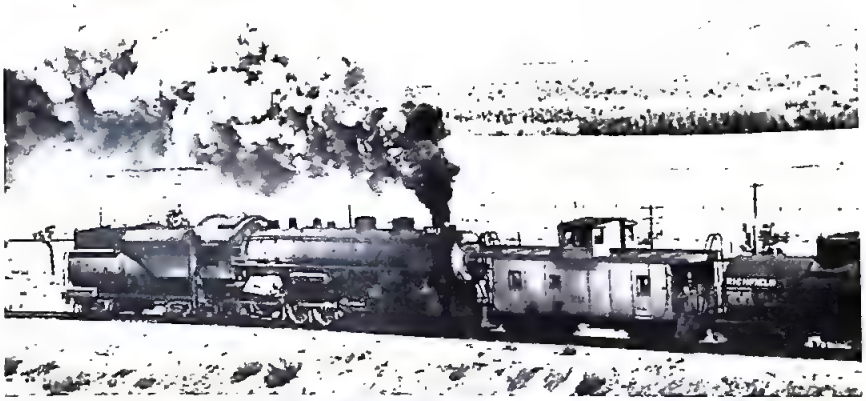
The line between Victorville and Summit wanders through rolling desert country—in bygone days a mecca for the carbody units which Santa Fe operated in large numbers.

downtown yards.

Running due north from Colton Tower, Santa Fe's two track line spans three miles then broadens into a yard at San Bernardino, a town that also houses a diesel backshop. Here the Cajon begins, for a train has barely passed its yard limit board before it's breathing hard, the diesels settling into a low speed growl that will continue on to Summit.

Santa Fe's 81 mile long line connecting San Bernardino and Barstow is governed by an employees timeable that reads Los Angeles Division, and rather curiously this is S.P.'s Los Angeles Division too, its line being known as the Palmdale Cut-off, a 79 mile single tracked line running out of Colton just west of the tower. Santa Fe terms the line its First District, S.P. Colton Subdivision while U.P. has no name at all since it's a lessee.

It takes horsepower to climb the Cajon, in big chunks and in big units, the largest examples of which mount U.P. markings. With three railroads involved and somewhat different motive power concepts the variety of units is legion. The aforementioned U.P. brings in its mammoth twin engined power, the DD's of EMD and the U50's that General Electric manufactured on a custom house basis. Another big G.E. user here is S.P., sending a variety of U-boat types, though of the single engine style, up Cajon and across the Palmdale Cut-



It was not unusual in steam powered days to assist westbound trains out of Victorville as shown by this U.P. movement about four miles west of Victorville.

off to Bakersfield. Another somewhat rare bird on the S.P. and found locally are its SD-39's which frequent the pass.

Santa Fe's contribution to the uncommon are its cab-styled F-45's, a bread of diesel that only a few roads have opted for, and S.P. and U.P. aren't among them. The long nosed Alco's of Santa Fe are also a frequent sight over First District rails, though they don't get the merchandise trains they did in earlier days now that they're high mileage units.

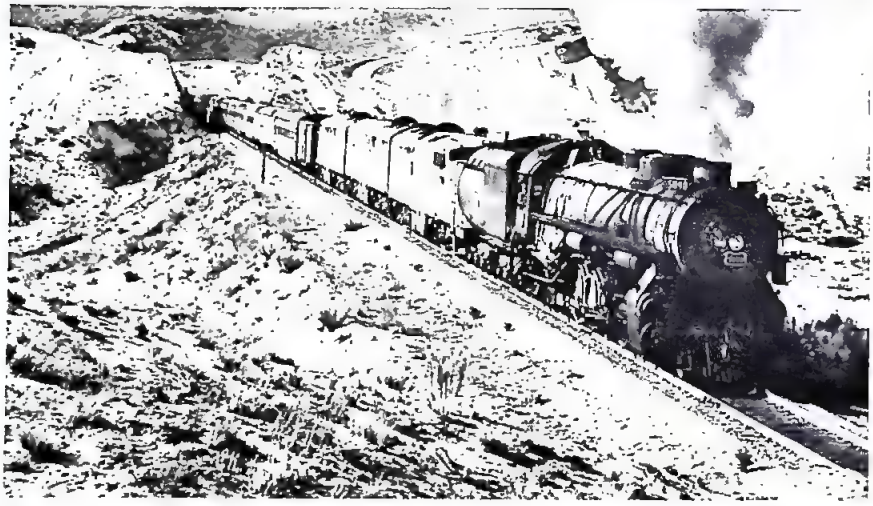
Otherwise the power scene is a broad mixture of earlier and contemporary GP power plus plenty of SD's, primarily the 40 and 45 series. Across Colton Tower on Espee's southwest line are sets of U33's, SD-45's and an occasional DD-35 or U-50, though that road's twin engined units total no more than a half-dozen.

Getting back to Cajon Pass operations, the Santa Fe line out of San Bernardino loops back westward somewhat beyond the city limits then climbs mostly in a polar direction through open ground as it approaches a narrow defile that cuts into the mountains. Meanwhile S.P.'s Palmdale line has started west of Colton Tower and gradually the two lines

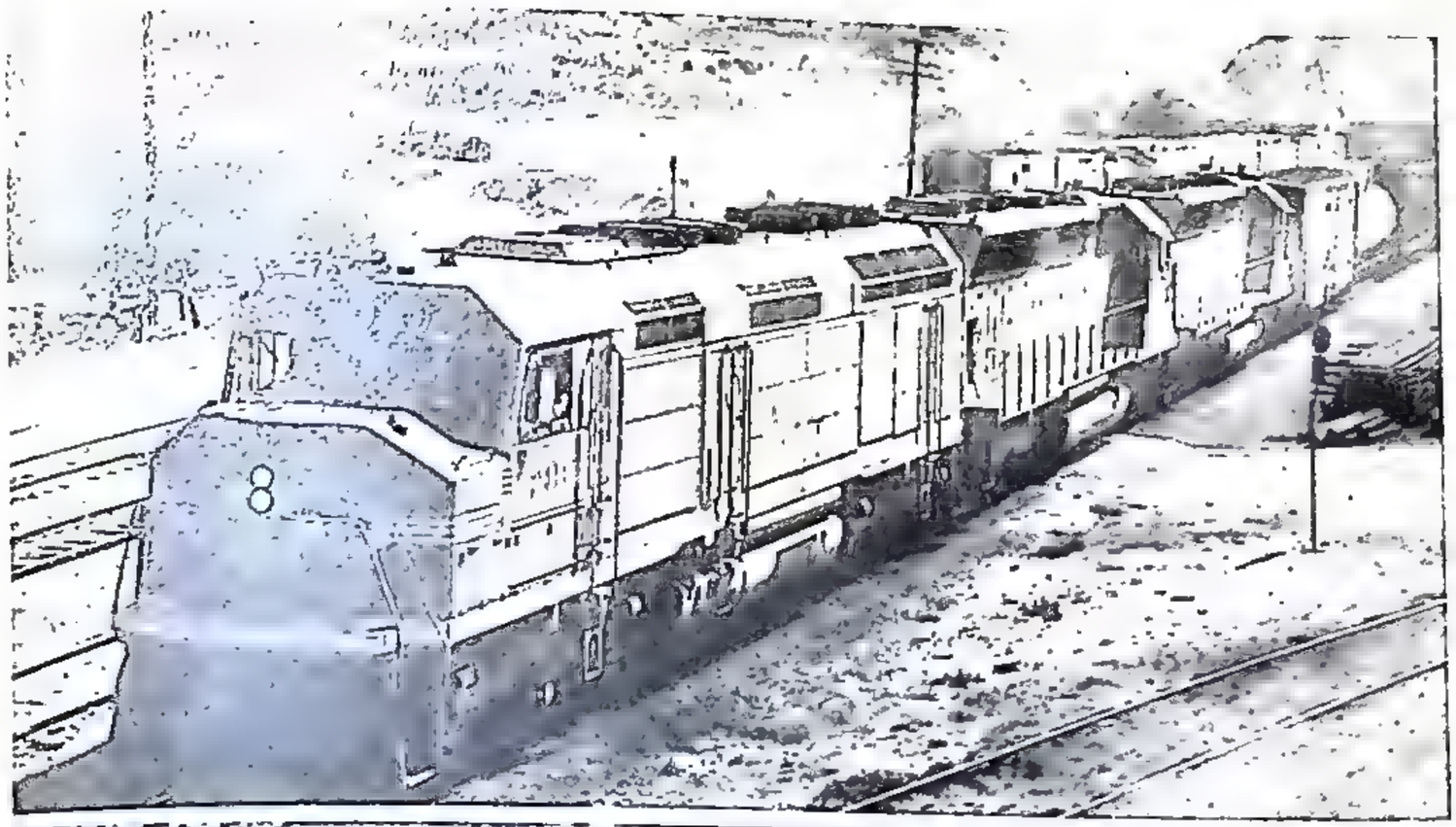
Union Pacific freight climbing the grade near Hesperia.

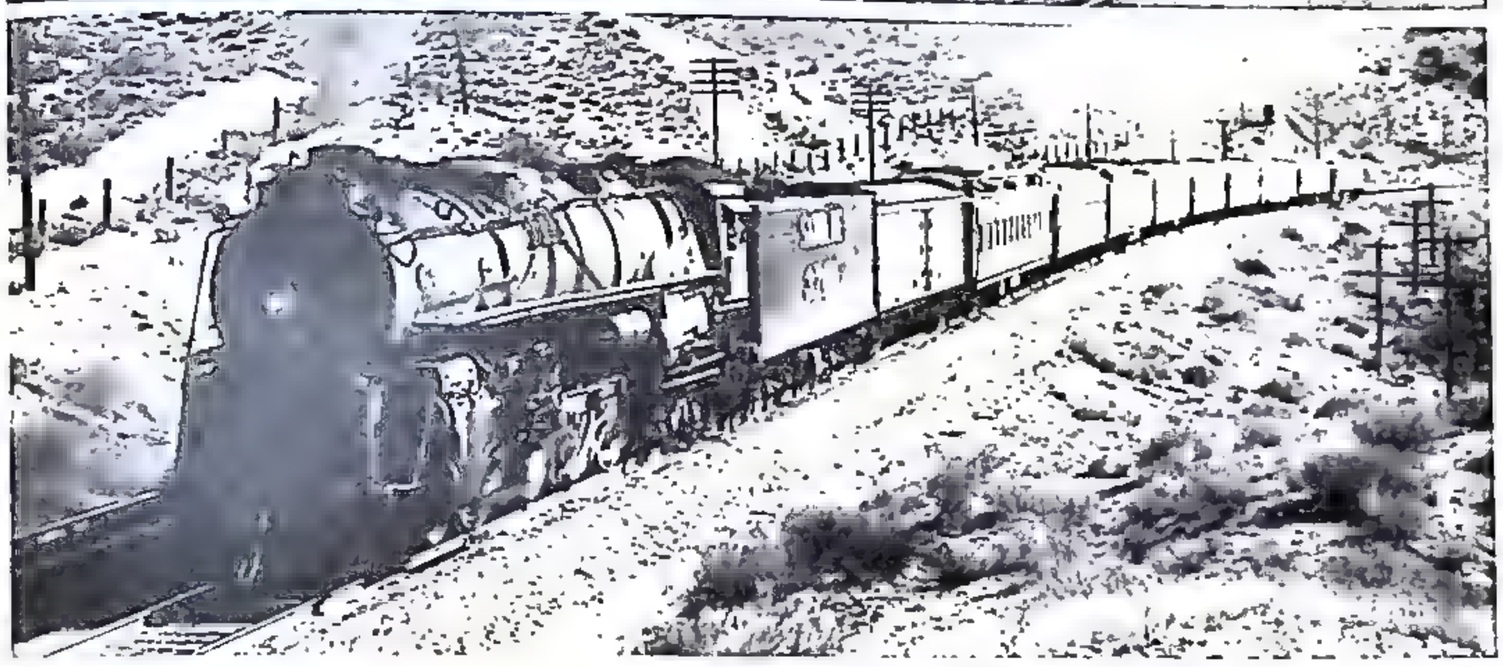
angle towards each other, coming within shouting distance at Devore, 10 miles out of town, For a brief while trains of three railroads, two with ownership rights and one with trackage rights parallel each other at a common elevation but shortly Espee will climb above the other two and remain higher through a series of cuts and fills all the way to summit. As a late comer S.P. didn't have its choice of surveying sticks and

In the final days of the steam era in Cajon a Union Pacific passenger train, itself powered by a set of rare FM passenger diesels, gets an assist from a 4-10-2.



A big power user is the Espee, seen here three miles below the Summit carrying six units with a two unit helper bringing up the rear.





Eastbound running on the left hand side —the new main line through Summit will follow the trail of the cuts seen over the roof of the lead unit.

The tail end of steam in 1950 sees a Grand Canyon Limited schedule hauled upgrade above Hesperia by the 3760.

to get it up the pass took a lot of earth moving.

For many a year, but not too much longer, Santa Fe has observed left hand running north from San Bernardino, upgrade all the way to Summit and for several miles beyond. Primarily scheduled this way to take advantage of gradient, as evidenced by the designation of separate upgrade and downgrade tracks where the two tracks separate for a few miles, this not too common pattern will gradually change as a traffic control project currently under way takes over block by block, mile by mile. Though with grades the way they are west or downgrade below Summit, the major impact will probably be beyond Summit towards Victorville, 19 miles of downgrade across

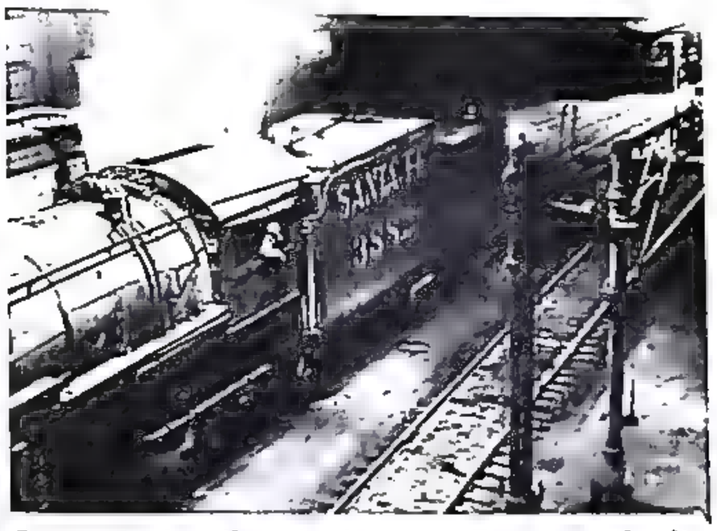
When Summit was still a train order station—the early 1950's found the beginning of haze and smog clogging the pass area.

the high desert country. Westbound trains have to fight this grade and the by-passing of slower trains by the hotshots will cause a new look around Cajon Pass. But it won't be left-hand running any longer, now they'll call it two tracks.

As the two lines, SP's single track, and Santa Fe's double main approach the Cajon area from the south they enter a narrow canyon, run along it for a couple of miles then pierce an area of large sandstone rocks, eroded and carved by time into rather spectacular formations, especially in late afternoon when they lay red in the waning light of a passing day.

At Cajon siding, some 19 miles upgrade from San Bernardino, Santa Fe's two tracks split apart, the eastbound line circling higher becoming more circumspect and longer but with an easier gradient. Meanwhile, Espee which has been generally following along at a higher level conforms to the Santa Fe upbound line, circling with it and generally adhering to its ideas to the top of the pass. More direct from Summit to Cajon over an eight mile route, the downgrade line boasts slightly over 3% ruling grade, a good workout for dynamic brakes and heavy tonnage. Upbound through this section which represents the heart of Cajon trains are battling 2% and slightly more, a hearty workout no matter the number of units involved.(continued on page 74)

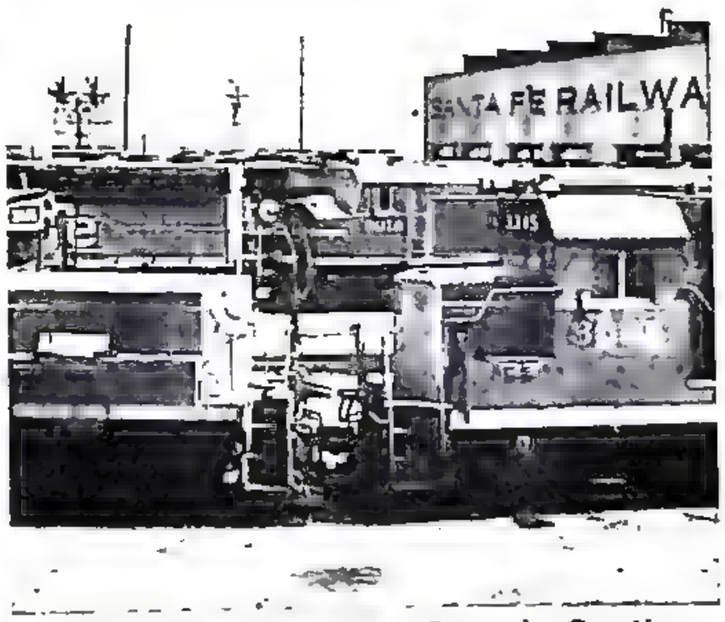
In 1950 at the tail end of the steam era this Santa Fe steamer is being serviced at the San Bernardino roundhouse.



Santa Fe's diesel shop at Barstow is its largest in California and provides a never ending stream of diesel variety. If you want to see what the Santa Fe has to offer on its California trackage then a day in Barstow is the place to go.

The eastbound Grand Canyon slips through a narrow part of the pass at Blue Cut—from here on the pass opens up to a wider stance all the way to Summit.

G.E. units on the point in the Sullivan's Curve area.



Latest entrant to Cajon Pass is Southern Pacific, here seen heading upgrade with

San Diego MU Operations

THE PANAMA CALIFORNIA EXPOSITION AND A NEW BEACH RESORT EACH HAD TH

Multiple unit operation of electric cars has usually been the province of main line electrifications and interurban electric railways, but the idea flourished also for some years as a useful tool of larger street railway systems in the United States and Canada. Trolley car trains in city streets reached their peak in the 1920s, but were soon cut down by the great depression, drastically reduced riding, and the trend to buses and one man cars. But the MU period in a city usually coincided with the development peak of its street railway company; hence it exerts strong fascination to the electric railway historian.

Among smaller American cities to enjoy MU streetcars was San Diego, our southwesternmost port; since 1542 the city had been prominent in history —first as the jumping off point for explorers, then coming into its own as major port, naval and air center, commercial metropolis and—above all—possessor of a near-perfect climate (the city claims to average but three days of rain annually).

San Diego owes its prominence to one man—John D. Spreckels, sugar tycoon and industrialist par excellence. Arriving in the sleepy town's harbor aboard his yacht one day in 1887, Spreckels became so enamored of the countryside that he lost no time in transferring his headquarters there from San Francisco. The Spreckels San Diego empire grew to include several railroads, banks, hotels, newspapers, commercial buildings, and vast land holdings. Not the least of his interests was the San Diego Electric Railway Company, operating an extensive streetcar system. John D. was not the only Spreckels to have a soft spot in his heart for the golden yellow California cars; his son, Claus, was so much a railfan that he refused to go to college, preferring instead to begin work for SDER at the bottom of the ladder so as to become familiar with every part of the streetcar operations.

In the course of its development, SDER became an early convert to MU operation. It indulged in MU cars on two separate occasions, although neither last very many years. The first occasion was in 1915, when San Diego invited the world to attend its Panama California Exposition, commemorating the opening of the Panama Canal. That was a spendid idea, and San Francisco followed suit, much to San Diego's dismay and resentment. Both expositions —San Diego's Panama California, and San Francisco's Panama Pacific, played to memorable crowds and each doubtless benefitted from the other. Railroads trumpeted loud and long in their advertisements: "See two fairs for one fare," and thousands of Easterners came out to the land of sunshine.

San Diego's exposition was held in its City Park, renamed Balboa Park; there, on barren hillsides overlooking the city below, stately buildings grew rapidly, taking shape as some of the most beautiful examples of Spanish architecture ever constructed. But the exposition site was too far from SDER's nearest line—and so Spreckels approved the expenditure of $40,000 to build an entirely new double track line to serve the exposition. At its terminus he erected a reinforced concrete terminal costing another $20,000, and topped off the whole project by purchasing 77 advanced design center entrance cars of impressive size—equipped for train operation.

Downtown terminum of the new line was a loop built in 1915 in front of the Santa Fe station at Broadway and Kettner St. From there trains ran through the business and hotel district on Broadway to 12th Ave., turned left onto the new trackage which took them

By Ira Swett

on a winding, high speed private right-of-way direct to the exposition, where the new terminal greeted visitors as they alighted at its main entrance at Laurel Street.

The 77 new cars were numbered 149 through 225 and were similar, although built by two different builders. Car 149 was the pioneer, having been constructed in 1912 by St. Louis Car Company. For two years 149 performed everything asked of her and at the conclusion of the trial period, SDER was ready to place a large order. In 1914 McGuire-Cummings Car Company built cars 150-185, and St. Louis Car turned out cars 186-224. So happy was St. Louis Car with the type that it built an extra car at its own expense and exhibited it at the Panama Pacific Exhibition—of all places—where it straightway won a gold medal as being "the finest streetcar in the United States." At the conclusion of the fair, the car was purchased by SDER and became its 225.

Designated its Class Two, SDER was mighty proud of its new MU equipment. Of composite construction (steel underframe, wood body), the new cars were 48'7" long, 9'2" wide and 12'2" high—generous size indeed. They weighed in at almost 44,000 pounds, even though having but two motors. Two motors? Yes, for trucks were Brill's 39E-1, the so-called Maximum Traction type, of 4'6" wheelbase. The motors were General Electric's No. 201, rated at sixty horsepower each. Control was G.E. Type MK. (Thus the cars were mechanically and electrically twins of Pacific Electric's "Dragons," 300-319.) Couplers were Westinghouse auto-controls and air—but jumpers were required for power and lights because of the fact that the presence of electric switches on the SDER system required but one pole up per train.

The Panama Pacific Exposition opened on January 1, 1915 and ran through that year and again in 1916. While its gates were open, SDER performed as never before. From the loop at the foot of Broadway up to the exposition terminal, two-car trains of the new yellow center-entrance cars ran on one-minute headways in busiest hours with nary a hitch. Such heavy operation would have done credit to the largest and busiest electric railways anywhere; that it came into being at a smallish, remote west coast city without previous experience in this sensitive field is all the more remarkable and a tribute to SDER's crews and officials.

A word or two regarding the exposition terminal would be appropriate at this point. The station was long and narrow, contained two tracks, and provided for complete separation between incoming and outgoing passengers. Arriving passengers disembarked on a single long center platform, open to the sky. They went downstairs into a pedestrial subway beneath the southbound track, climbed upstairs to ground level and passed through the exit turnstiles and found themselves face to face with the fair's main entrance. Returning passengers desiring southbound cars entered the right end of the arched building, passed through the entrance turnstiles by paying exact fare, and found themselves on the loading platform—289 feet long and 15 feet mide—where three of the two-car trains could load at the same time. As soon as the front cars were loaded, off they would go, with new trains coming up to the platform from the loop and/or four storage tracks. Gates and fences bounded the loading platform so that in case of delay the two thousand people on the platform could be kept under control. On the opposite side of the tracks was a similar platform for northbound passengers; they reached it by walking into the left end of the terminal, paying their fares at entrance turnstiles, then going downstairs to a subway under

both tracks and up to the northbound passenger platform.

When the Panama California Exposition closed its gates for the last time in 1916, SDER's fine transit tool had no further application. The Class Two cars did operate in trains in rush hours for a time, and they ran in three-car trains to a potash plant down on the National City line for shift changes for an even briefer time, but their glory days were over almost before they really began. The jitney bus, the dawning of the auto age and dwindling ridership all were important factors working against MU operation. The MU couplers and control equipment carried around by cars 149-225 were just so much dead weight, and so in 1924 and subsequently as cars went through the shops for routine overhauls this equipment was removed. As single unit cars, 149-225 carried on until the mid-1930s when progressive bus substitutions made them surplus; all were scrapped by 1940 except seven (159, 217, 218, 219, 221, 222, and 225). These returned to work during World War II, but all were gone by 1948.

San Diego Electric Railway's second experience with MU operation was announced by Claus Spreckels in early 1923: about 3.5 million would be spent on a new all-year beach resort and real estate development to be served by an entirely new high-speed electric railway which would be continued an additional six miles north to serve the town of La Jolla. Altogether, the new railway line would be thirteen miles long, entirely on private right-of-way, would have a grade separation where it crossed the main line of the Santa Fe, and would enter the new resort—Mission Beach—on an impressive new bridge over the San Diego River.

A train using both pole trolley and pantograph arrives in La Jolla from San Diego after its speedy 35 minute trip on July 4, 1924. (Paul Ward Collection).

July 4, 1924 was a great day for La Jolla and this four-car train from San Diego was carrying a big load of celebrating passengers. (Paul Ward Collection).

The impressive bridge over the Santa Fe's main line to Los Angeles also carried SDER trains over the coast highway—a three level interchange back in 1925! (Paul Ward Collection).

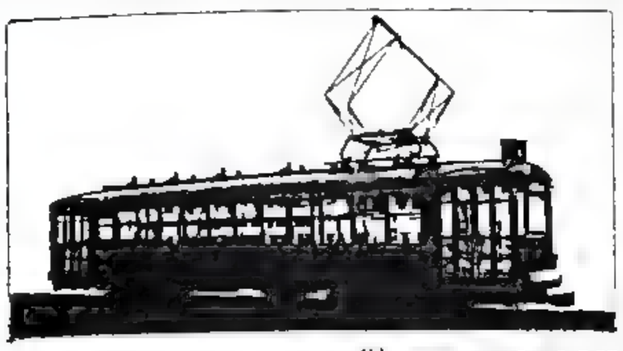
Closeup of front doors, steps and operator's position on car 400. (Paul Ward Collection).

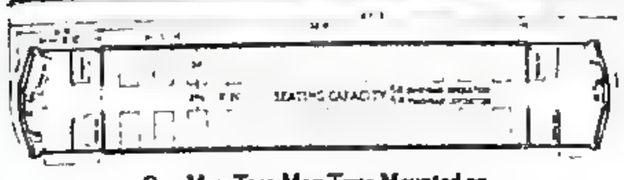
San Diego's Plaza Park was a streetcar paradise when long trains of 400s curved around it. (Paul Ward Collection).

The new resort of Mission Beach included an auditorium, a bath house, dance hall, large amusement center including a roller coaster, an ocean pier, and a dredged-out boating and swimming center in a portion of Mission Bay. The Spreckels interests already owned most of the acreage involved, and streets were laid out, paved, utilities installed, and lot buyers were even assisted in building homes. To make the new development irresistible, SDER announced it would run electric trains of the most modern type of cars on a virtual non-stop schedule to downtown, which would be reached in but fifteen minutes.

February 2, 1924 ELECTRIC RAILWAY JOURNAL

50 Cars for San Diego





One-Man Two-Man Type Mounted on Brill 77-E Trucks

Comfortable riding, convenience, durability and economy in operation are among the important characteristics of these new San Diego cars.

The Brill 77-E-1 trucks, equipped with 26-in. diameter wheels, are constructed with the new twin swing links, an assurance of smooth and steady riding under both high and low rates of speed.

Provision is made for train operation during the heaviest traffic periods and, when the travel is lightest, the folding platform doors may be operated separately or in unison as desired

THE J. G. BRILL COMPANY
PHILADELPHIA, PA.

This full page advertisement of the J. G. Brill Company was carried in the February 2, 1924 issue of "Electric Railway Journal" and featured SDER's new cars. (Ira Swett Collection).

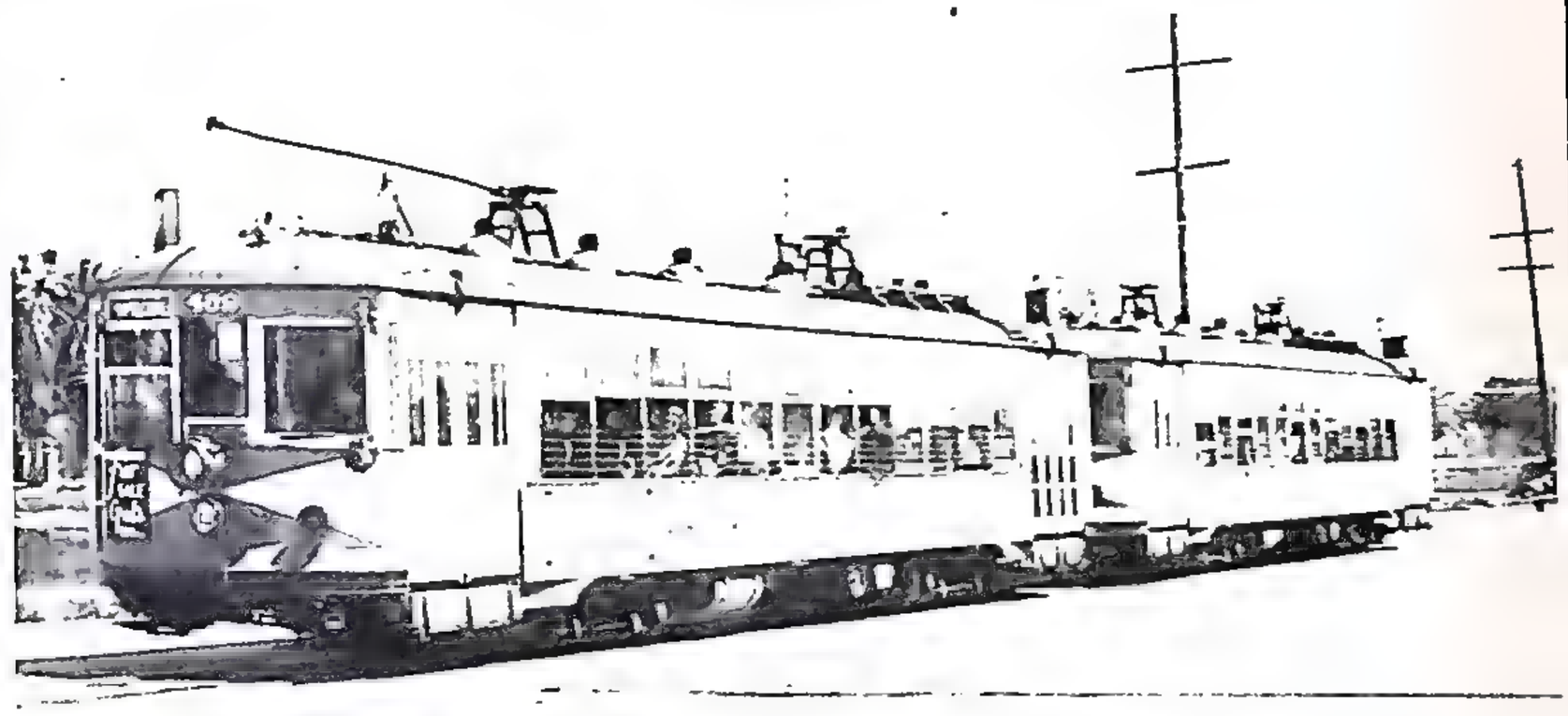
This entire project, largest undertaken in San Diego since the exposition, reflected John D. Spreckels' faith in the future of San Diego.

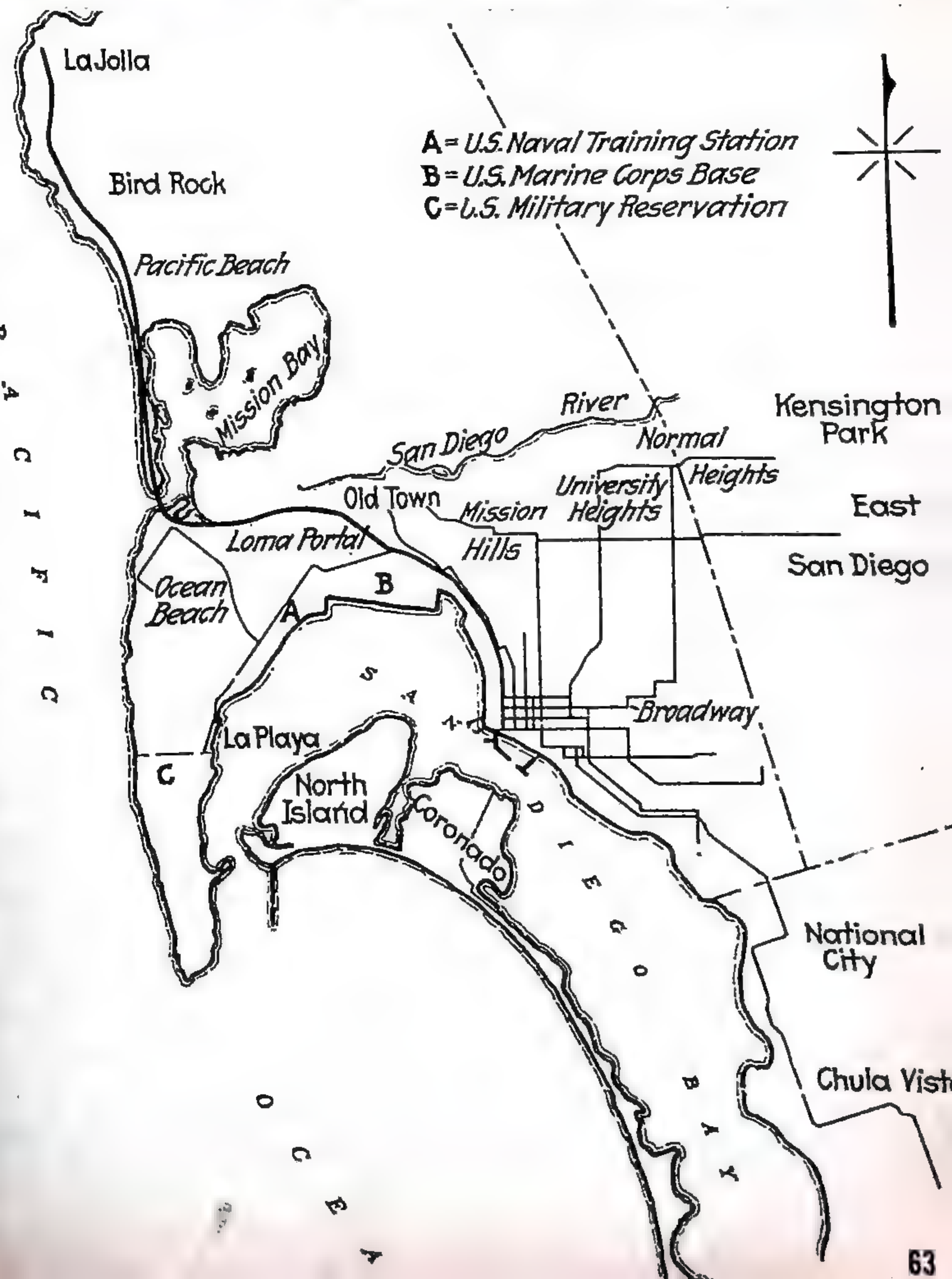
Fifty new cars were ordered from The American Car Company of St. Louis. While resembling somewhat the familiar double truck Birney of the era, SDER's new 400 Class was anything but Birney. Steel bodies 47'6" long, 8'-6" wide with doors at ends, were mounted on Brill 77E-1 trucks with 26" wheels, weight was 48,000 lbs. Capable of being operated either one-man or two-man, the 400s could seat 54 passengers. Double folding doors with folding steps were at each car corner, and full safety devices were incorporated. Two rather unusual features for city cars of the period were included: pantographs and couplers. City cars? Yes, for SDER intended to use its new cars on its major lines as well as on the new high speed Mission Beach-La Jolla run.

The new cars cost $18,500 each, or a total investment in new cars of almost a million dollars.

Last two-car train in San Diego operated in 1940 on farewell excursion. (Ira Swett).

The new line left San Diego along Kettner St. from Broadway; at Witherby St. it crossed both the Santa Fe and the coast highway by means of a trilevel bridge—unusual in its day and precursor of today's intricate freeway interchanges. The line then crossed salt marches along the San Diego River to





Map showing new line to Mission Beach and La Jolla, 1924. (Electric Railway Journal).

the ocean, where it crossed the river and entered Mission Beach. There the double track line passed through the new development on raised private right-of-way; at the main intersection, trains debarked passengers into concrete subways under the tracks and paralleling auto lanes. The line then continued north through Pacific Beach and into La Jolla, where a loop around an attractive Spanish type station got the trains pointed back southward again.

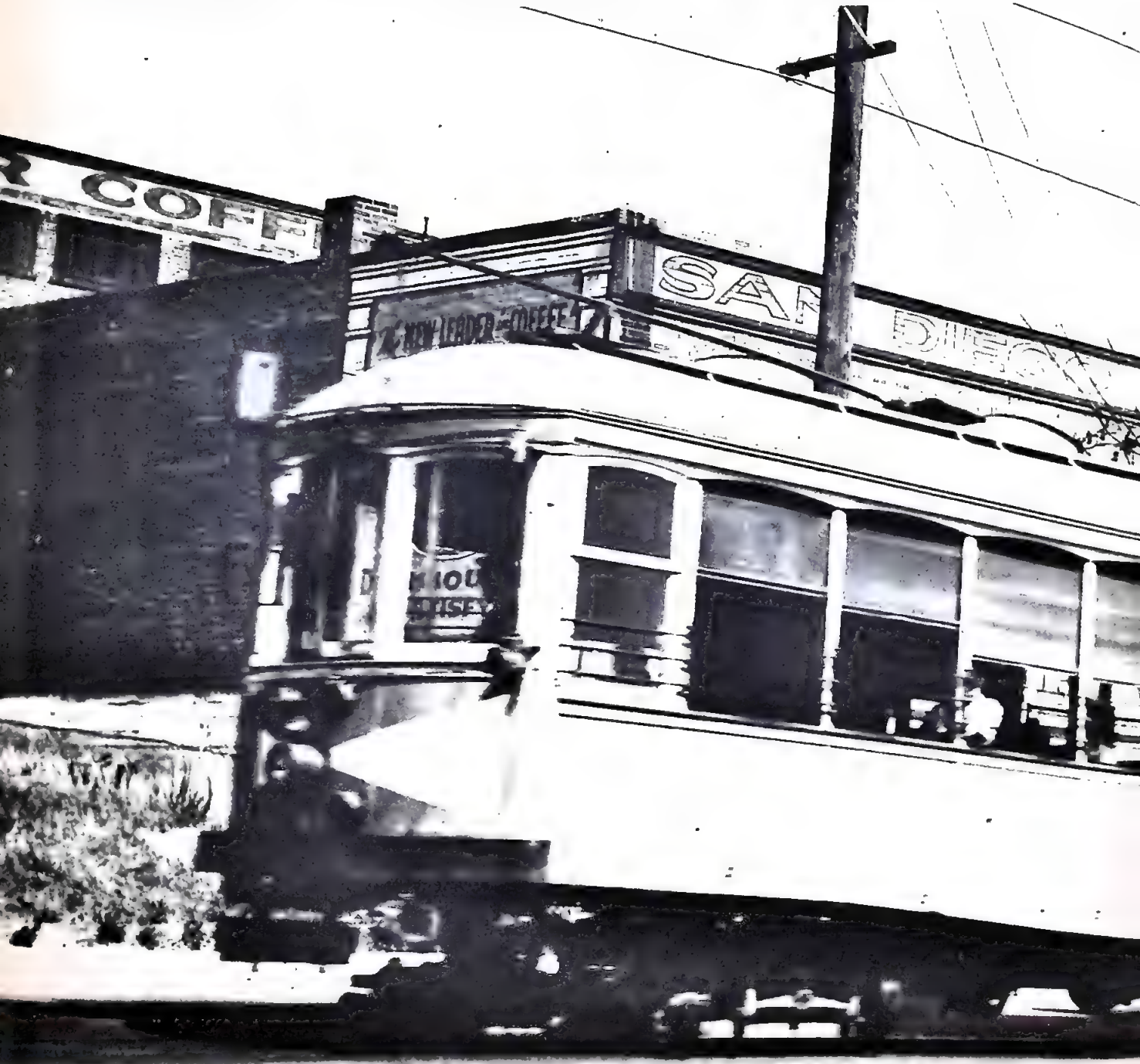
Construction standards were high: 128-lb. girder rail in paved streets with MCB flangeway to accommodate freight cars; steel ties; a 16-inch concrete paving; 75-lb. rail in private right-of-way; redwood ties and crushed rock ballast. Overhead was catenary to permit pantograph operation. Trolley wire was No. 0000 and heavy bonding, cross-bonding, and the welding of rail joints eliminated electrolysis. Automatic substations were installed at Ocean Beach Jct. and at La Jolla/Hermosa.

The 400s began arriving in late 1923 and by April, 1924, all had arrived. A trial run was made over the new line as far as Pacific Beach on February 22, 1924, with railway and civic officials on board. All was in readiness for the public advent of the new Class Five cars, as SDER dubbed the fine new vehicles.

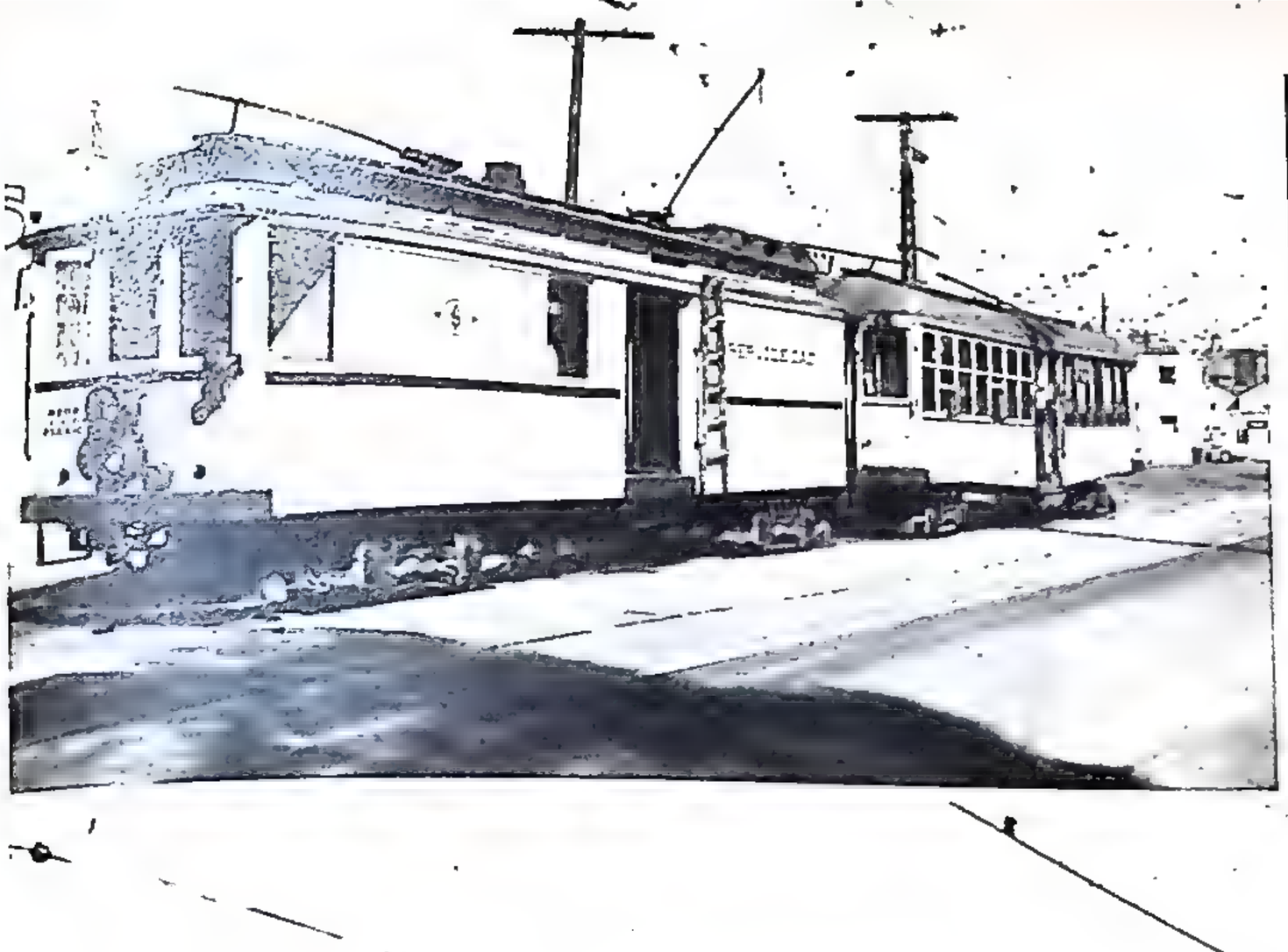
For years SDER had served Ocean Beach with a roundabout line. This line was tied into the new highspeed line at Ocean Beach Jct., and the first of the new cars rolled into Ocean Beach on May 1, 1924, with the new service designated Line 14. But the big day was July 1, 1924, when for the first time San Diegans could ride the brand new line through Mission Beach, Pacific Beach and into La Jolla. Newspapers ran special editions to commemorate the event in fitting style.

The new trains were certainly impressive. Six cars coupled into one train, some cars with pantographs, others with pole trolleys; and cars of three different lines were coupled into a single train. It was easy, for the 400s could couple and uncouple on the fly.

Three or six car trains left San



SDER's car 218 models the impressive size of these center-entrance behemoths. (Magna Collection).



Off on her-last trip—to the torch. One of SDER's last Class Two cars rolls off into the sunset in 1948. (Jack Ferrier).

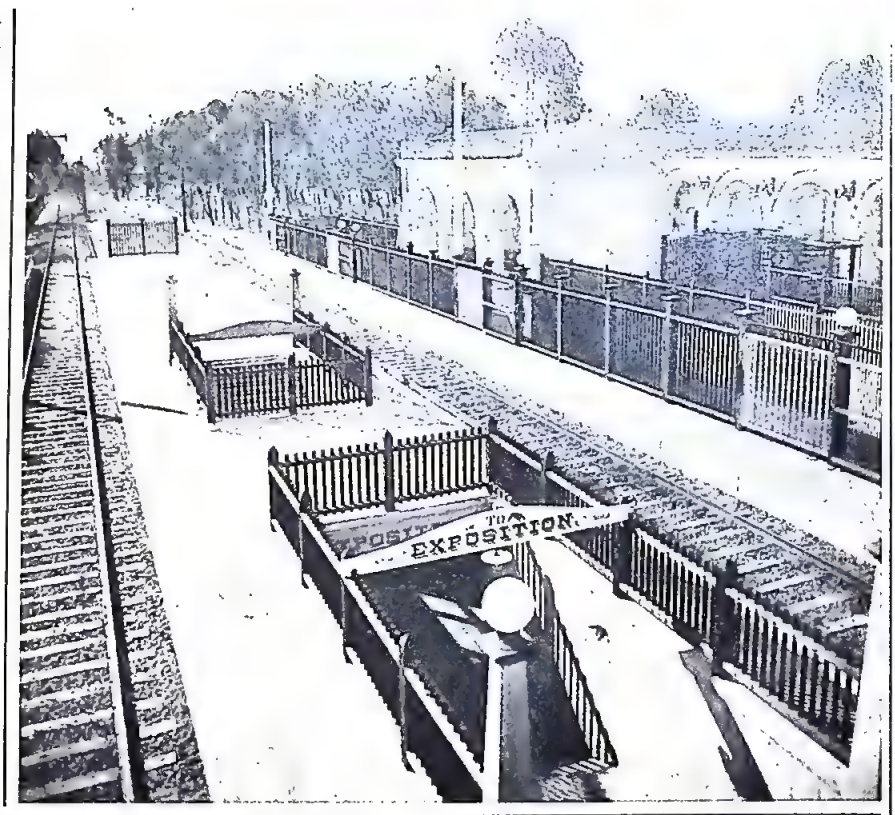
Diego's downtown Plaza at Third and Broadway. The first car or cars were marked up No. 14; at Ocean Beach Jct. they uncoupled and went on their separate way. The remainder of the train then continued over the bridge and into Mission Beach, and this was the terminus of the #15 line. Finally, the front car or cars continued northward another six miles to La Jolla, the #16 line. Running time was 18 minutes to Ocean Beach Jct. (six miles), 20 minutes to Mission Beach (seven miles), and 35 minutes to La Jolla (thirteen miles).

Coupling and uncoupling on the fly was made possible by use of the auto-

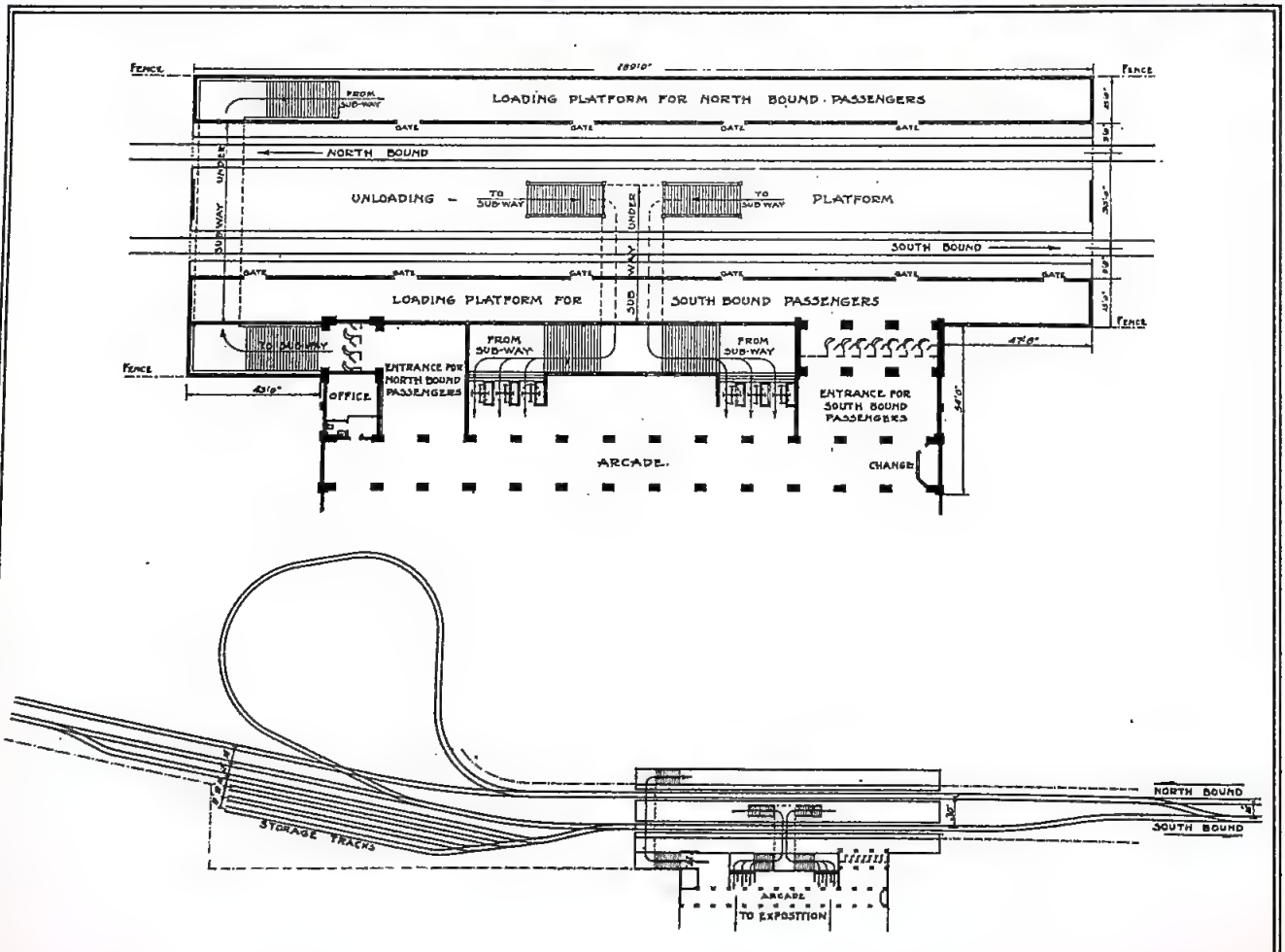
matic coupler (Tomlinson type) and a complicated control system activated by push buttons in front of the motorman. As Ohio Brass described it:

"The couplers require many safeguards. The arrangement of circuit connections renders them ineffective until the mechanical coupling between cars has been completed. Emergency brake applications are thus prevented. The push buttons are interlocked. The motorman approaches a car to which a coupling is to be made at a safe speed, engages the couplers, then presses the coupling button. This energizes the electro-pneumatic valves, admitting air to the disconnecting switches and simultaneously opening the valves in the air brake pipe."

The pantographs did not last long. Of light construction, they collapsed some instances, they tore down overhead when snagged. Soon cars sported a pole trolley at the opposite end, and started in 1925 all pans were removed



Main exposition terminal, 1915, showing double track, center unloading platform, and boarding shelters at right. (Electric Railway Journal).



Layout of SDER's exposition terminal and yards, 1915. (Electric Railway Journal).

and a second pole took their place. The heavy wooden pan platform on each car was never removed, and the 400s carried them around until the end.

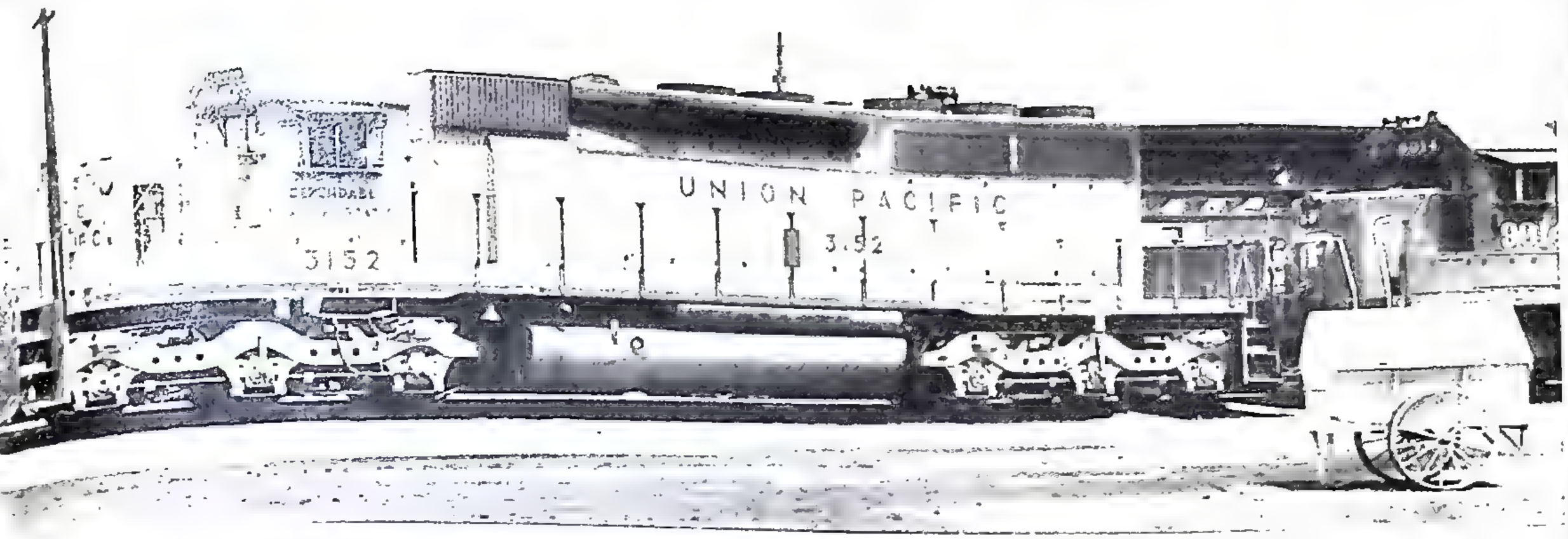
The great depression, the rise of the private automobile and reduced riding brought about the downfall of the elaborate Mission Beach-La Jolla interurban line in 1940. But even before this, some Class Five cars had lost their MU equipment; starting in 1932, couplers and MU control equipment were removed as cars were converted to one-man operation. By the time the last car ran to La Jolla on September 16, 1940 only a few 400s still had their couplers; a farewell excursion used a two-car train and the event caused mild astonishment in a city once accustomed to six-car trains on its main thoroughfare.

San Diego's last streetcar ran on April 24, 1949 and it was one of the 400s. While some of the city's PCC cars went on to El Paso where they still are in service, the 400s were not so fortunate; all were scrapped, and San Diego's days of traction glory ended with them.

Car 400, first of SDER's Class Five cars, was loaded and ready to leave American Car Company's plant in St. Louis on December 1, 1923. (Paul Ward Coll).

Car 225 on exhibition at Panama-Pacific Exposition, San Francisco, in 1915; to its rear is a Los Angeles Railway car. (Magna Collection).

RAILROADING, PAST AND PRESENT



CHEYENNE AND THE UNION PACIFIC RAILROAD COMBINE FOR SOME FASCINATING TRAIN WATCHING

By Gary Morgan
Photos by the author

When was the last time you were in a roundhouse full of steam locomotives? Ten years ago? Fifteen or longer?

It might have been yesterday or last week if you were talking about Cheyenne, Wyoming, where, in the Union Pacific yards, half a dozen steamers are store in the vintage roundhouse.

Besides UP's storied #8444, the road's last in-service steam locomotive, you can spend the day photographing or just examining at close range one of the famous "Big Boy" articulateds, a "Challenger," an antique 10-wheeler, and a bulky 2-10-2.

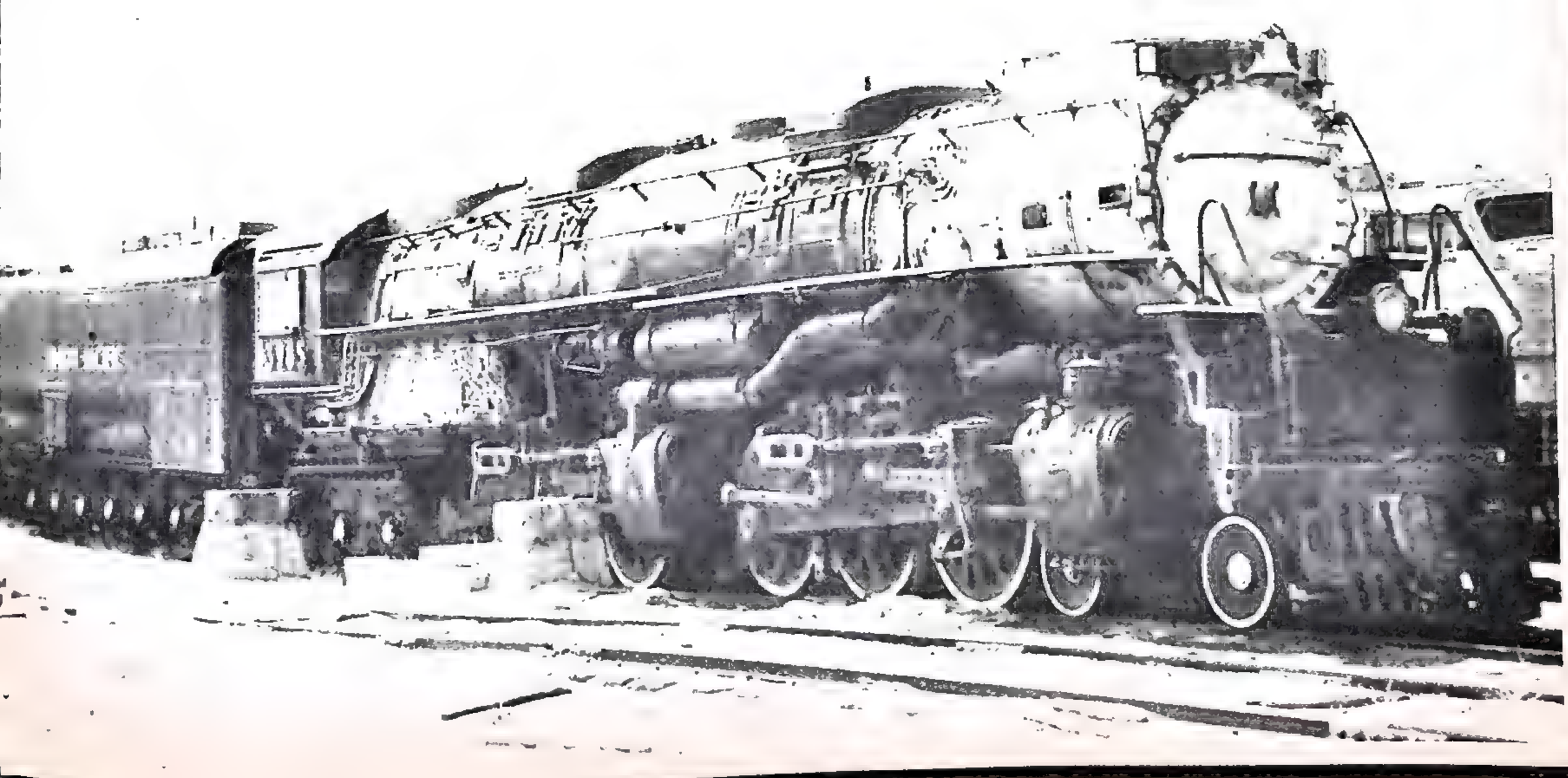
The oldest of the collection is #1243, a 4-6-0 built in the late 1800's and the last of its type to be retired from the active roster. She was put in storage in the 1950s. In contrast to #1243, there's powerful 2-10-2 #5511, which saw her action primarily on the Nebraska Division.

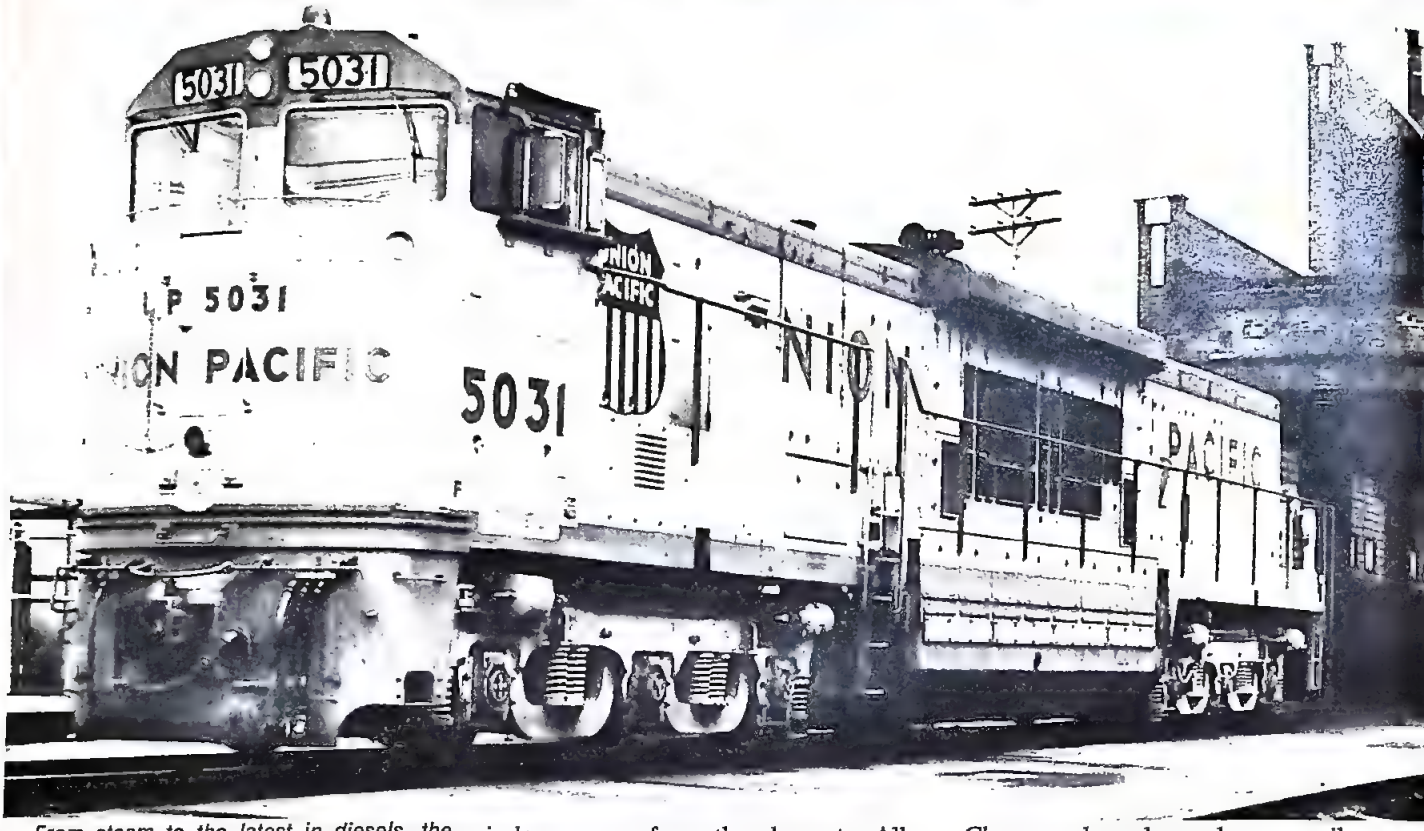
It's not unusual to see Union Pacific diesels of all types heading up Southern Pacific extras around Cheyenne, Wyo. The UP provides the additional motive power for the long Sherman Hill grade.

And, of course, #8444 usually occupies her special stall—unless the mammoth 4-8-4 is off on one of her frequent railfan excursions. Another Northern type, #833, is kept in the roundhouse, too, as a source of parts for #8444.

UP's two big articulated types are represented by 4-6-6-4 #3985 and

Union Pacific "Challenger" #3985 was stored on the scrap track outside the Cheyenne, Wyo., roundhouse until some thoughtful official ordered the 4-6-6-4 and the other steam locomotives moved into the roundhouse for protection from vandalism and the elements.





From steam to the latest in diesels, the Union Pacific has it all in Cheyenne, Wyo. Above, General Electric's U50C #5031 awaits her crew after servicing in the roundhouse.

4-8-8-4 #4023, the next-to-last "Big Boy" built. These sleek giants sit side by side today, posing a nostalgic picture for steam fans.

The steamers were kept outside, on the dead line, until last winter, when some thoughtful official moved them indoors away from the elements. All that remains on the scrap tracks are two of UP's renowned gas turbine locomotives, and those will soon be moved out.

Cheyenne is not a city to forget its railroad heritage. "Big Boy" #4004 and ten-wheeler #1242, fitted with a diamond stack, are on display in two city parks as a continuing reminder of the part the railroad has played in the city's history.

Cheyenne has always been a railroad town, and it's no different today. In sharp contrast to the historical value of the steam locomotives stored there, the modern railfan can see and photograph almost every type of

Numbers 26 and 29 are the only two remaining Union Pacific gas turbine locomotives left in Cheyenne, Wyo. Those two, shown above on the scrap line outside the roundhouse, will soon join their sisters and become victims of the torch.

The tim... not [illegible] years ago, but today. Union ...c's "Big Boy" #4023 (left) and "... ...ger" ...365 sit side by side in the ... Cheyenne, Wyo., roundhouse.

The first Westbound Amtrak passenger train heads out of Cheyenne, Wyo., headed by standard E units and pulling a nine-coach consist May 2, 1971.

PAST AND PRESENT

diesel in existence.

From a yard switcher to the giant U50C's, freight power is always on the move in Cheyenne. Long through trains run in each direction about once every half hour, and it's common to see a couple of UP's 6900 units heading up a Southern Pacific extra to help out on the long pull over famous Sherman Hill.

Amtrak serves Cheyenne, too, with daily trains in each direction. Almost every imaginable concoction of passenger equipment, including cars with the new Amtrak paint scheme, can be seen.

Rail activity abounds in Cheyenne, and it's not all Union Pacific. Not far from the UP yards is the freight office of the Colorado and Southern (a division of the Burlington Northern), where diesels with various pre-BN merger road names can always be seen.

Railroad workers and officials in Cheyenne are generally accommodating to railfans who want to see this strange combination of past and present in railroading. All in all, it makes a day in Cheyenne an extremely pleasant and worthwhile experience.

After many years of faithful service, Union Pacific 2-10-2 #5511 found herself stored on the deadline outside the roundhouse in Cheyenne, Wyo., for many winters before she was finally moved into the roundhouse recently.

Union Pacific "Big Boy" #4004 is on public display in a small park near the UP depot in Cheyenne, Wyoming. The massive 4-8-8-4 provides a constant reminder to residents and tourists alike of Wyoming's railroad heritage.

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BOOK REVIEWS

(Text continued from page 7)

veled, this short line in northern New York State has something for everyone. Its beginnings were with rails three feet apart and then after various financial disasters the railroad was standard gauged and has survived into 1972. It is still having its ups and downs but the future looks bright indeed.

Mr. Lewis has written a most interesting account of the trials and tribulations of the line and this is accompanied by an excellent selection of photos. From the early days of narrow gauge 4-4-0s of the Tonawanda Valley & Cuba RR (as it was then known) to the present day diesels it is a fascinating pictorial history.

CAR NAMES, NUMBERS, AND CONSISTS

by Robert J. Wayner
Published by Wayner Publications, New York, N.Y. 245 pages, 8½ x 11, $7.95 softcover.

This book is just what the name implies. A complete listing of all the streamlined and light weight cars ever in service in the United States. The individual railroads are listed, though not alphabetically for some strange reason, showing the types of cars used, their numbers, and which cars were used with what name train.

Also included are the car names, where applicable, and floor plans for many of the cars. If you are not quite sure what is meant by a 4/2/4 Pullman sleeper this book will tell you. This is a well compiled reference work that should be of special interest to the passenger train enthusiast.

THE MISSABE ROAD

by Frank A. King, published by Golden West Books.
224 pages, 8½"x11", $12.95.

The Duluth, Missabe & Iron Range Railway is synonymous with the iron ore industry. Hauling the ore from the natural deposits in Minnesota to the loading docks on Lake Superior was the major reason for the railroad's two predecessors, the Duluth & Iron Range Railroad, and the Duluth, Missabe and Northern Rwy. Finally in 1928 these two lines were merged into the present day railroad.

Mr. King's new book covers the complete history of all three lines. From the early days of tiny American type 4-4-0's through heavy steam to the arrival of EMD SD-38's, motive power has always been chosen with ore hauling capabilities in mind. The 2-8-8-4 Yellowstone articulated's were one of the most famous of this type of locomotive in service in the U.S.

But there are other facets of the DM&IR. Where there is a railroad there are people, and passenger service was also provided including a time when RDC's were tried. The ships and ore loading docks are a fascinating feature of the story as is the information on the operation in the open pit mines. This is a well constructed history of an intriguing rail operation.

GUIDE TO THE GREAT SIBERIAN RAILWAY (1900)

published by Drake Publishers, New York.
520 pages, 6½"x10", $17.50.

Here is something a little different in railroad books for the European historians. Originally written in Russian and then translated into English, this was a book designed to encourage American tourists and businessmen to patronize the newly constructed Trans-Siberian Railway.

Published in 1900 and containing more than 350 illustrations it painstakingly describes not only the vast railway and its connections, and the towns and villages along the route, but also tells much of the hopes and fears of the period. The Russia of the Czars was an engrossing time and should be of interest to any rail historian.

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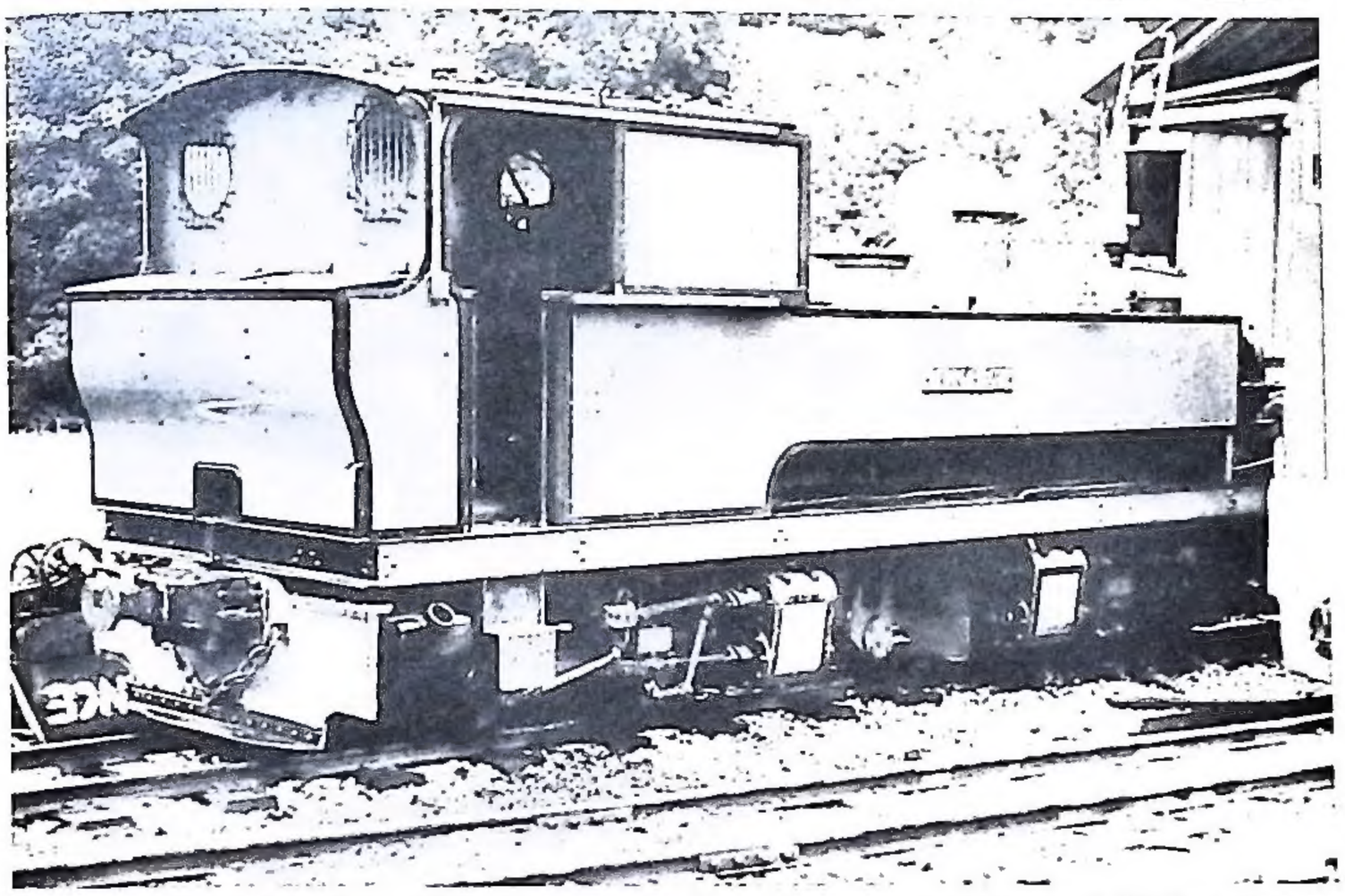

Another interesting piece of motive power on the Welshpool and Llanfair is the 0-4-4-0 articulated tank locomotive. This unit was built in 1953 and weighs 28½ tons in working order.

(Text continued from page 35)

the 4 foot gauge Padarn Railway but to a gauge of only 2 feet. The right of way runs along the edge of Llanberis Lake and is a beautiful setting for a railway. Again the beautiful views with the ruined castles in the distance which so typically Welsh. The line has four steam locos which are all 0-4-0ST built by Hunslet and one 0-4-0 well tank built by Jung. Two of the Hunslests were working when I was there and their small size and red color make them very appealing.

While you are at the Llanberis Lake line follow the track to the engine house in the building with the clock tower and you will be treated to a tour of an intact repair shop and foundry which is powered by an enormous water wheel. This museum is run by the Welsh Government and was the main repair facility for the Dinorwic Quarries.

As you drive out of the Llanberis Lake Railway look across the street and you will see the main terminal for the only cog railway in England, the Snowden Mountain Railway which runs up Snowden Mountain. We took one look at the crowds and decided not to take the ride; I hope it is less mobbed for you.

Now on to the last of the Great Little Trains of Wales. The Welshpool and Llanfair is on the way back to London as your tour of Wales draws to a close. Drive out of Portmadoc across "The Cob" and down to Bornmouth on A487 and on to Dolgellau where you get on to A458 which will take you into Llanfair Caereinior and Welshpool. The main shops are at Llanfair Caereinion and there are several interesting locomotives to be seen. The line is laid to 2 foot 6 inch gauge and has two Beyer Peacock 2-4-0 side tank locos, "The Earl" and "The Countess." These are beautiful outside frame locos built in 1902 and painted a deep green. There is also a rare Sentinel steam loco which has a vertical boiler and the profile of a small diesel loco. They call it "Nutty." No. 6, "Monarch," is a Bagnall loco built in 1953 and has two four couples articulated frames under it. There is one more steam engine on the property and it is No. 10 which is a German military field Railway 0-8-0 used in World War II. The coaches are varied as on all the lines described but for those interested in European prototypes there are four Zillertalbahn four wheel coaches from the Austrian Tyrol, on the Welshpool line.

This ends the tour and now you can drive back to London, down the center of England through the Midlands. There are many other lines and museums to see and since England is such a small country they are easy to get to in a reasonably short time. Do not count on making great distances since in general the roads are not as well-developed as ours and you do not cover the distances you might be used to.

One last comment. Each of the lines mentioned has a book shop or souvenir shop. These all have little booklets describing each of the lines mentioned and are very detailed giving maps and technical descriptions of each of the pieces of equipment. Look for them and you will have a fine and inexpensive library. The Talyln and Festiniog both have very complete book stores where you can get just about any British Railway book. Bon Voyage.

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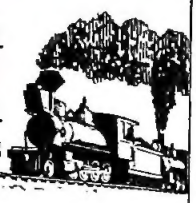

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three railroads

(Text continued from page 53)

The track separation, Cajon to Summit, accounts for the fact that it's 80.8 miles westbound, 82.7 eastbound between Barstow and San Bernardino.

Summit is aptly named for it terminates grades approaching from both sides on the Santa Fe and Southern Pacific, with the heaviest descent lying westward. The latter road has a train order office here and it's called Hiland to avoid confusion while Santa Fe a few years back removed the name from its list of open TO stations. Here has been the famous curve so often photographed which is currently bowing to change as the TCS installation incorporates a new path through the high banked cut that brought upbound trains face to face with the high desert land forms.

Hooking 'em up at Summit (when the TO station was still there in 1950). The fireman of an eastbound passenger gets a set of train orders while running by the depot at Summit.

From Summit on, the Espee draws increasingly away from Santa Fe-Union Pacific operations, first disappearing gradually through a series of cuts then turning more rapidly to head westward to Palmdale. Meantime, still working under a left handed option the two tracks carrying trains of two transcontinentals starts downgrade under high speed authorization to Victorville, gracefully carrying curves along a bench punctuated with Joshua Trees and the trappings that go with desert scenery.

Victorville, once a focal point for helpers working trains west to Summit brings a new phase to train operations. Thirty-six miles out of Barstow, it ushers in a pattern of running with little or no concern for dynamic braking. Open country once a couple of curves are circumnavigated west of town, the high class freight runs have a governing speed of 70, lesser freights are carded for 60 mph, a clearly attainable limit. For what now passes under the Amtack banner, the ruling speed from Barstow to Oro Grande which is near Victorville is set for 90 mph, made possible by flat terrain as well as an automatic train stop feature.

At Barstow, Santa Fe's principal California operations can be found. On a busy day handling about 40 trains, two dozen of them via the First District this desert town is based upon railroading. Northern California traffic marches into Barstow to hook up with Southern California tonnage for the long haul east. Westbound the signals are reversed. A large diesel shop, one of the larger ones on this huge railroad, is sited here, the west end of the long Argentine (Kansas City) to California diesel pool. Some trains, such as the racehorse "Super C" go right on through with no change in power. More often than not Barstow's power pool provides a set of freshly serviced power for eastbound schedules and a breather for units in from the east.

It's quite a railroad show, this section of railroading in Southern California. Very few places in the west can boast of three carriers running side by side or the traffic density that accompanies the spectacular geography.

Besides the hustle and bustle of Barstow, or the grinding toughness of traversing Cajon, there's the south end at Colton. Briefly mentioned in the beginning, the tower here sees all the First District traffic except passenger runs—they take a different route into Los Angeles—plus everything the Southern Pacific has to offer moving across its main line and the cut-off, at least another couple of dozen trains every 24 hours.

Try unit trains, they move here in lumps of ore and finished steel coils. Try high speed merchandisers like the Super C or Espee's high wheeling BSM or a U.P. hotshot Omaha bound with two DD's and four engines. They're all Colton Tower material!

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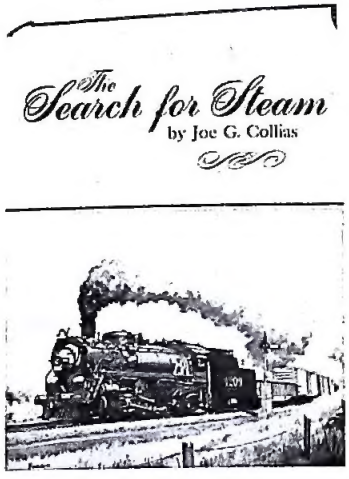
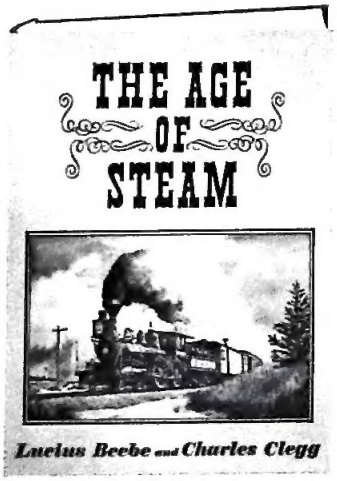


The Search for Steam by Joe G. Collias

During the waning era of steam in America, many excellent photographers were recording its passing. Collias, a fine photographer himself, has searched out these artists, some little-known, others well established in the rail fraternity, such as Richard Kindig, Preston George, H. Reid and their like. Their best work is here gathered along with the author's own to present a pageant of the glorious time when steam ruled the rails. 418 top grade pictures, 5 in full color, 360 large format pages. $15



THE AGE OF STEAM by Lucius Beebe & Charles Clegg

The first edition of this work was printed in Holland by the gravure process and sold out in a matter of weeks. Another printing was ordered but the plates had been destroyed in error and the remaking of them would have been too costly. Since 1957 the book has been out of print. It probably contains one of the best collections of pictures ever assembled by this famous team. The cost of gravure printing is so high now that no one could afford the book; so this edition is printed in double black, a costly process but one which really makes the photos come to life. 527 pictures, 304 pages, 8 x 11 inches. $15

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